FEBRUARY 8, 1954

Are Commuters Worth It? . . . p. 61

RAILWAY AGE

The Standard Railroad WEEKLY for Almost a Century

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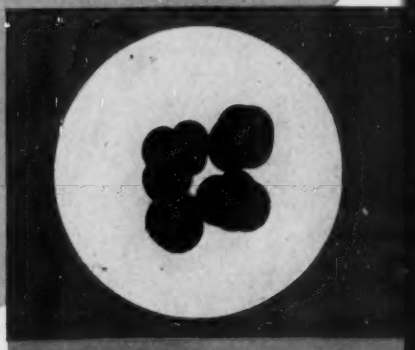
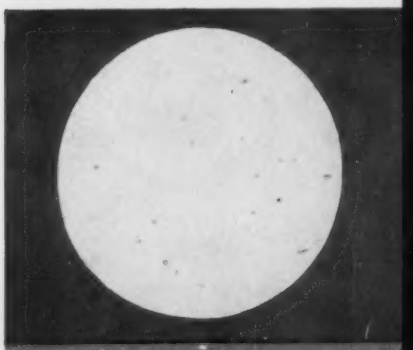


UNTREATED lower-cost fuel oil sample, magnified 8400X, shows objectionable sludge particles that cause poor combustion, clogged filters and sticking injectors.



TREATED, same lower-cost fuel oil, same magnification as above, shows how Nalco SR-158D disperses sludge, reduces particle size.

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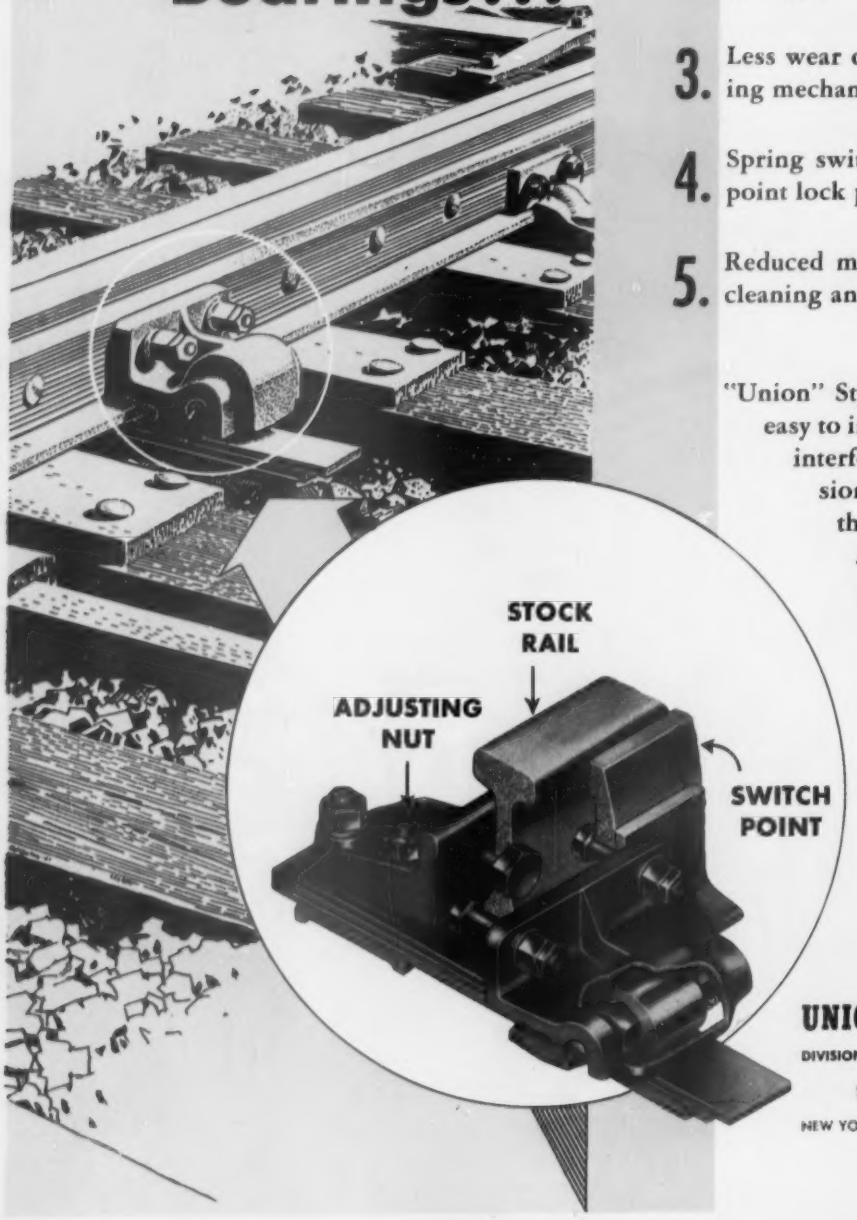

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RAILWAY AGE

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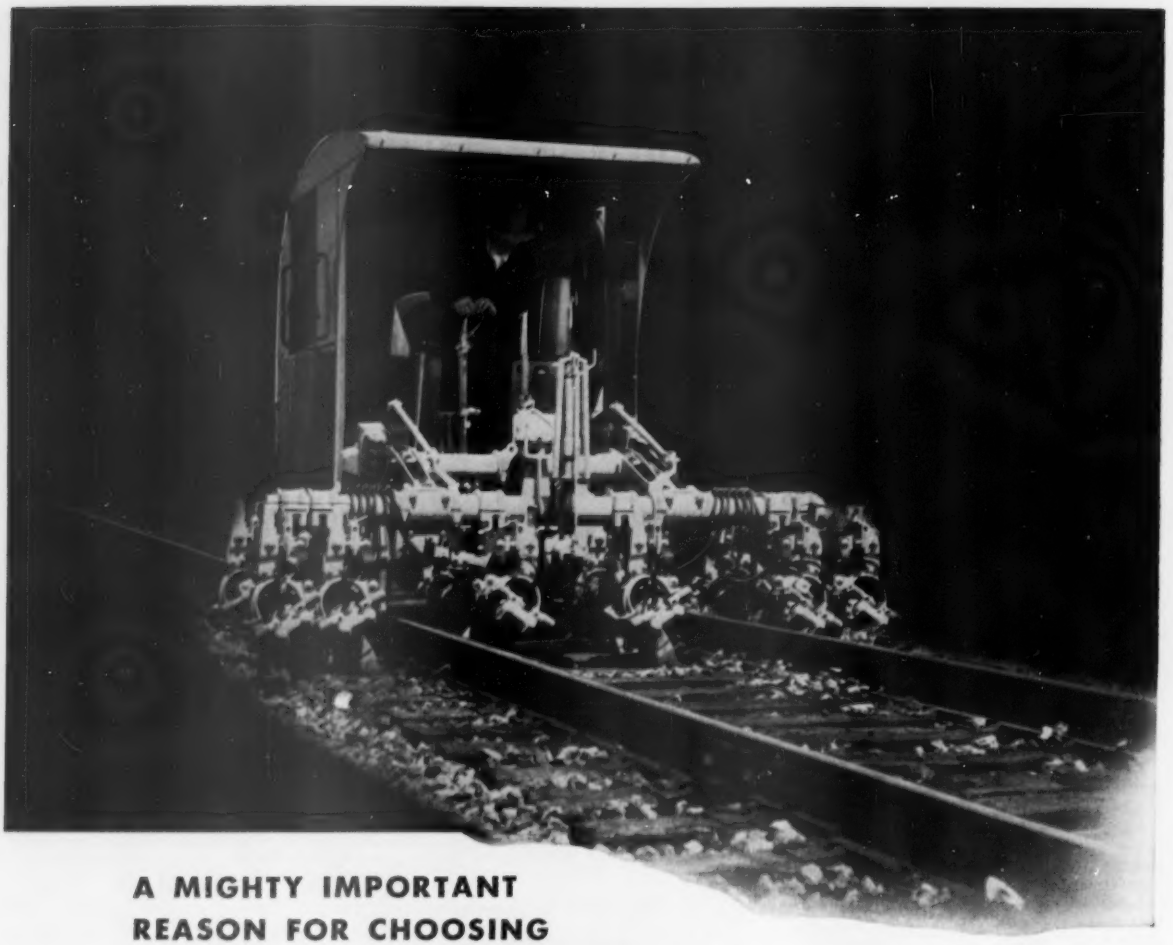
Feb. 8, 1954 **Vol. 136, No. 6**

Week at a Glance



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Current Statistics

Operating revenues, eleven months	
1953	$ 9,848,917,002
1952	9,646,522,076
Operating expenses, eleven months	
1953	$ 7,438,438,928
1952	7,341,809,527
Taxes, eleven months	
1953	$ 1,162,856,463
1952	1,164,820,228
Net railway operating income, eleven months	
1953	$ 1,031,517,291
1952	968,789,627
Net income, estimated, eleven months	
1953	$ 800,000,000
1952	717,000,000
Average price railroad stocks	
February 2, 1954	61.40
February 3, 1953	69.64
Carloadings revenue freight	
Four weeks, 1954	2,339,131
Four weeks, 1953	2,653,599
Average daily freight car surplus	
January 30, 1954	107,185
January 31, 1953	69,965
Average daily freight car shortage	
January 30, 1954	691
January 31, 1953	1,727
Freight cars delivered	
December 1953	4,456
December 1952	7,845
Freight cars on order	
January 1, 1954	29,950
January 1, 1953	80,296

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Departments

Week at a Glance CONTINUED

Are commuters worth it? Providing them with adequate service is a headache for all railroads saddled with the problem. But the Burlington has found that an affirmative approach to that problem can turn commuters into good friends—and good business. 61

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What price diesel maintenance? A rearrangement of available data suggests that current accounting methods may not give a true picture of rising costs. 68

Accounting service to supervisors — D. B. Woomer's prize-winning paper in *Railway Age's* essay contest. 70

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An electric line goes diesel—and the Fort Dodge, Des Moines & Southern is following the somewhat unusual program of converting its branches first. 73

A conveyor delivers freight direct to trackside in a novel arrangement at Salinas, Cal., where a seed-processing plant had its direct access to SP rails cut off by a heavy-traffic highway. 74

The I.C.C. fears the "undercutting" of established regulation. It warned Congress, in its annual report, that "so-called private carriage" conducted under "buy-and-sell" arrangements is a "growing menace." 76

Health, welfare and free pass demands of the non-operating unions will apparently have to be ruled on by a Presidential emergency board, since a federal district court has denied the carriers' petition for a ruling that

Week at a Glance CONTINUED

such demands are outside the scope of the Railway Labor Act. 81

BRIEFS

The Senate-approved St. Lawrence seaway bill moved closer to final passage last week. Without further hearings, the House Public Works Committee voted 23 to 6 to report the bill favorably to the House. The bill, S. 2150, provides for United States participation with Canada in construction of the seaway.

The Frisco won't acquire the Central of Georgia. Directors of the St. Louis-San Francisco, "after full consideration," have decided not to acquire the Central of Georgia stock "proffered by Patrick B. McGinnis of New York on behalf of himself and his associates." On January 13, Frisco President Clark Hungerford stated his road was "studying the potential value of the CofG" to determine "whether an offer should be made and what that offer should be." The latest announcement may not necessarily indicate, however, that the Frisco has given up the idea of acquiring any stock in CofG.

Airlift capacity of scheduled air lines increased by more than a billion ton-miles between mid-1950 and mid-1953. In 1950, air lines filled 53.59 per cent of their total capacity of 1,584 million ton-miles; in 1953 they filled 58.67 per cent of the 2,629 million ton-miles available. Cargo air carriers boosted their revenue per cent of total available ton-miles from 69.33 in 1950 to 80.44 in 1953.

Trucks and truck combinations in the heavier weight brackets are becoming more and more common on main rural roads. In 1952 65 out of every 1,000 trucks and 197 out of every 1,000 truck-tractor and semi-trailer combinations weighed 50,000 lb. or more. Comparable figure for 1950 was 58 trucks; and, for 1949, 127 combinations.

Large-scale consolidation of railway corporations can "effect savings in cost and improvement in services equal to or greater than those derived through dieselization," John W. Barriger, vice-president of the Rock Island, declared in a recent address at Chicago. "The service benefits and improved earning power that would follow . . . would produce . . . far more jobs than the increase in efficiency would eliminate," he added.

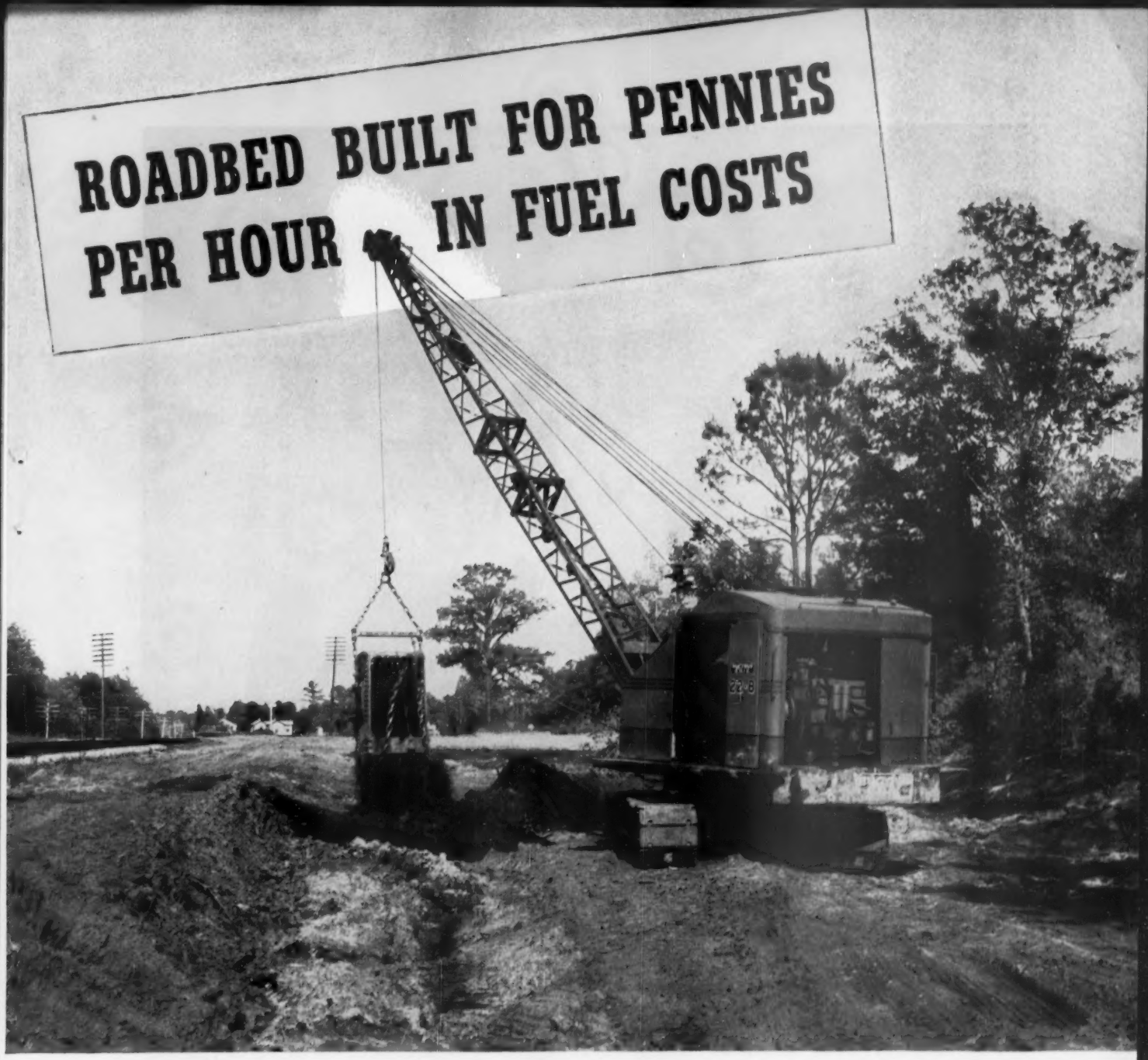
Complete dieselization of the Norfolk Southern became effective January 29, with 31 units in operation. When dieselization began seven years ago, the NS had 48 steam locomotives, its president, Cecil M. Self said; and in earlier years used as many as 62 steamers to handle less traffic than is hauled today.

Not a single employee fatality is the record of the Reading Company for 1953—in fact, for the 18 months preceding the end of that year. Reportable accidents were down 19 per cent compared with 1952.

As part of its economy move, the I.C.C. wants a $9,600-a-year assistant directorship left vacant in the Bureau of Locomotive Inspection. A. C. Breed, who holds the job, will retire at the end of this month, and the commission has recommended to the White House that no new appointment be made.

To cut claims for damaged furniture, the Southern Pacific has just completed a series of 73 "clinics" for freight station employees at 30 principal stations on the road's Pacific lines. P. M. Chaimov, SP's manager of freight protection, merchandise and station service, says his organization is willing to help anyone start a similar program.

ROADBED BUILT FOR PENNIES PER HOUR IN FUEL COSTS



THIS Bucyrus-Erie Shovel is building profits as well as roadbed for the Atlantic Coast Line Railroad. A money-saving Cat* D318 Diesel Engine is powering its ¾-yard bucket.

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But Caterpillar Diesel Engines pay off in more than fuel economy. Their high availability and long life add up to big dollar savings. Costs drop if equipment is ready for work when your men are—and that's the type of availability you can count on from Caterpillar off- and on-track equipment.

In addition, you can get genuine Cat parts within a matter of hours from your nearby Caterpillar Dealer. He will go anywhere, at any time. He always keeps parts in stock for your equipment. And no matter how old your Caterpillar equipment may be, it never becomes an orphan. Parts are available—*always.*

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Outlook For Rails Called Good

Financial analysts also hear about possible railroad applications of "Operations Research"

"I look at the future with optimism," R. E. Thomas, vice-president of Pennroad Corporation, told the Third Eastern Regional Conference of the National Federation of Financial Analysts' Societies, at New York January 28.

"It seems to me," he declared, "we are on the threshold of an era where transportation . . . [led by] vigorous . . . young and aggressive railroad managers will learn to live with each of the other forms and to compete fairly for business with pricing policies that serve to build both competition and earning power. Under these conditions, railroad securities will again find favor with long-prejudiced investors."

Although he preceded Mr. Thomas on the program, B. E. Wynne, assistant to comptroller, Bessemer & Lake Erie, and president of the Railway Systems & Procedures Association, told the analysts that he, too, viewed the railroads' future with optimism. He indicated that within and outside R.S.P.A. some younger executives are "coming along" and beginning to translate their ideas into action.

At Crossroads—Mr. Thomas said transportation as a whole is at a crossroads, with government ownership at the end of one road and continued private ownership down the other. Due to their size, the Pennroad vice-president continued, railroads would lead the parade down "whichever path we follow." And, "the outcome of the competitive scramble will be most decisive in our choice of a final destination."

Mr. Thomas called railroads the only true common carrier, with other forms of transportation "specialized carriers of freight relying—in part at least—on the common carrier label to compete successfully" with railroads. He mentioned the conveyor belt as a newcomer to the "specialists." This carrier, he went on, would take "cream" traffic (coal, coke and iron ore), leaving railroads "holding the bag, required to provide service to any shipper denied the benefits of the belt conveyor . . . Inevitably rail rates would rise to compensate for so large a loss of revenue. Traffic would be driven away in a vicious circle of rising rates and declining traffic."

In much the same way, Mr. Thomas continued, trucks already have taken much of the "cream." However, he said, "no one will ever convince me that fundamentally there is any excuse for railroads to lose traffic to trucks if railroads consider the traffic desirable. But excuses or not, loss of traffic to trucks continues . . . because railroads cling to an outmoded method of rate-making while new and lusty competitors take traffic away with rates based upon costs which are often, as is the case with trucks, far higher than rail operating costs."

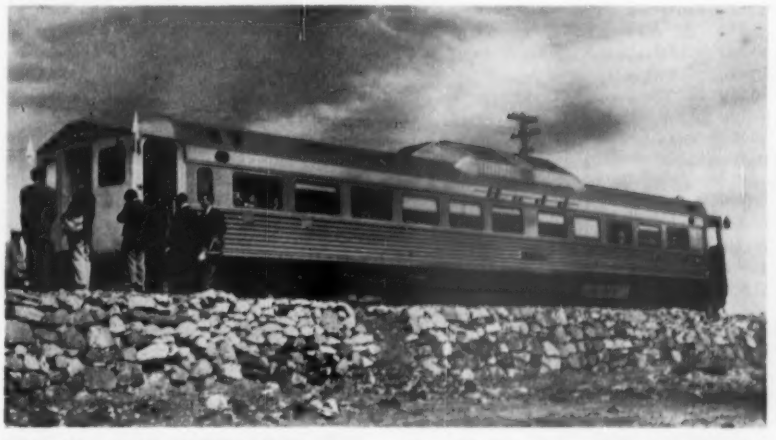
What is needed to halt this diversion of traffic, Mr. Thomas said, before shippers spend too much money converting from rail to truck handling facilities, is leadership which will create a competitive pricing policy. The railroads, he stated, should be permitted to "make rates . . . which will move desirable traffic, regardless of sacred rate relationships of years standing. Small shippers ought to welcome volume rates for big shippers if such reduced rates will hold on the rails heavy tonnage over which to spread overhead costs and thus keep lower the general level of rail rates.

R. S. P. A.—Mr. Wynne told the analysts that from the point of view of investors, the Railway Systems & Procedures Association "provides vigorous evidence of the railroads' inflexible determination to make their securities more attractive. As an industry, we need venture capital, and we feel confident the future will find railroads a still better investment than they are today."

As a background for this statement, Mr. Wynne outlined the railroads' improvement program since World War II, as well as the growth and development of R.S.P.A. and its past activities. He emphasized his organization's attack on paperwork and other costs via the interdepartmental approach, as well as its examination of new "tools," such as electronic computers and operations research.

Mr. Wynne called "operations research" a "dramatic new opportunity for railroad progress through scientific analysis of problems both old and new." He defined operations research as a special kind of research into operations, "analyzing the operations with the cold, objective approach of the trained scientist . . . the gathering of historical facts and the statistical correlation of these with the various operational factors which influence them. And then it means offering possible solutions."

In making their analysis, O.R. men frequently use such scientific techniques as linear programming, waiting line theory, and others, most of which have proved beneficial to other industries and to the armed forces, the R.S.P.A. president continued. The outcome of their work, he said, provides a "paper" or mathematical model of the operation. Once the model has been constructed, the effect of changing



MEXICO CITY JOURNALISTS inspecting a Budd Company rail diesel car as it awaited orders to return to our southern neighbor's capital after a recent demonstration trip. The RDC has been loaned to the National of Mexico for a 30-day trial, during which it will be tested over most of the NdeM system from Guatemala to the U.S. border.

any of the variables can be accurately predicted. Thus, in yard operation, one can tell what effect changing the humping rate or inspection rate, or increasing the number of classification tracks, would have on the operation as a whole.

Because operations research seems to have possibilities for the industry, Mr. Wynne said R.S.P.A. is sponsoring a joint conference of a few top-level railroad men and operations researchers. Objectives of this session are, he concluded: (1) "to find out whether . . . techniques of operations research are applicable to railroad problems"; and (2) "to explore how techniques of this new science may be made available to railroads generally."

Saul Smerling, railroad editor of Standard & Poor's, said that, though railroads' net income during 1954 would be down from 1953 levels, dividends from stocks this year would be about the same as the $360 million paid in 1953. The desire for dividend income, he said, has been sharpened by prospective changes in tax laws; unless these changes are voted down, interest in stocks with a well-protected dividend return of six or seven per cent probably will continue. Purely speculative shares have lagged, he said, and probably will continue to do so.

Competitive Transport

C.A.A. Issues Its Report On Airway User Charges

A 151-page report on possible charges for use of the Federal Airways System has been issued by the Civil Aeronautics Administration.

The report suggests that Congress consider legislation which would impose charges on civilian air carriers using the airways system. Two alternative methods of assessing such charges are presented:

(1) A fuel gallonage charge on aviation fuel consumed by domestically operated aircraft; or

(2) A gross ton-mile charge applicable to all aircraft of more than 4,500 pounds maximum gross take-off weight, and a graduated aircraft registration fee for those aircraft weighing up to 4,500 pounds.

The C.A.A. said the federal government has spent about $632,000,000 on the domestic airways system since 1925. Approximately 25 per cent of this represents cost of establishment. Appraised value of the system as of July 1, 1952, was $85,305,959.

Total cost of operating the domestic airways system in the fiscal year of 1952 amounted to $75,692,993. This included depreciation, interest, research and development costs, maintenance and operation expense, and overhead costs.

The portion of this annual cost attributable to civil users is between $40,000,000 and $50,000,000, the C.A.A. said. User charges would aim at recovering this amount.

Air Carriers Can Pay — "As a whole, domestic civil aviation appears to have reached a level of economic maturity which will permit it to make a reasonable contribution toward meeting the annual costs of the federal airways system," the report said.

"The precise level at which user charges should be initiated should take full account of the past as well as the prospective earnings of the carriers, and the Congress, in deciding upon the suitable level should avoid charges that would place an undue financial burden upon the industry."

I.C.C. Approves New Barge Service on Mississippi

The Interstate Commerce Commission has decided to issue the Sioux City & New Orleans Barge Lines a certificate authorizing it to conduct extensive operations on the Mississippi River system as a "common carrier by non-self-propelled vessels with the use of separate towing vessels in the transportation of commodities generally."

The commission's report was by its Division 4. The approved operations will be between ports and points along the Missouri river, on the one hand, and, on the other, ports and points along the Illinois waterway, the Ohio river, the Allegheny river below Kittanning, Pa., the Monongahela river below Brownsville, Pa., and the Mississippi river from Grafton, Ill., to Port Sulphur, La.

The barge line now has a certificate authorizing less extensive operations, but it has not operated under it since 1943. The commission's present report said issuance of the new certificate would be withheld pending receipt, on or before March 1, of a request by the applicant for cancellation of the old certificate.

GENERAL ELECTRIC'S CHAIRMAN Philip D. Reed (right), at the controls of a locomotive in the firm's Erie, Pa., locomotive and car equipment plant, which had just completed the last of 40 diesel locomotives for the Central of Brazil. With Mr. Reed is G. W. Wilson, general manager of G. E.'s locomotive and car equipment department.

Law & Regulation

Segregation Case Laid Before I.C.C.

A segregation complaint against 11 major railroads, the Richmond, Va., Terminal Company and the Union News Company at Richmond, has been filed with the I.C.C.

The National Association for the Advancement of Colored People, and 17 individuals, filed the complaint. It charges the defendants with "widespread" violations of the Interstate Commerce Act as well as of Article I, Section 8, of the Constitution. The complainants allege they have been subjected to "discriminatory treatment, segregation and other forms of humiliation and embarassment because of their race and color. . ."

The commission has docketed the proceeding as No. 31423, and has scheduled a prehearing conference before Examiner Howard Hosmer.

Outlined in the complaint is a series of incidents involving coach travel, reserved-seat trains, station facilities, failure to provide accommodations, Pullman travel, and dining facilities in the Richmond terminal. According to the complaint, these incidents occurred at various times within the period from December 15, 1951, to July 24, 1953.

Named as defendants were the Frisco; Louisville & Nashville; Southern; Santa Fe; Texas & Pacific; Atlantic Coast Line; Missouri Pacific; Seaboard Air Line; Kansas City Southern; Illinois Central; Gulf, Mobile & Ohio; Richmond Terminal Company (Broad Street Station), and Union News Company (Broad Street Station).

I.C.C. Allows More Time For Views on "Piggybacks"

Interested parties have obtained a 30-day extension in which to file suggestions with the I.C.C. on proposed regulations of "piggybacking." Deadline for such suggestions is now March 15.

The commission instituted its "piggyback" proceeding (No. 31375) early in January. Division 3 invited comments by February 15. This date was pushed forward to March 15 because persons desiring to file suggestions found it "impracticable" to submit views on such short notice (*Railway Age*, January 18, page 8).

Meanwhile the executive committee of American Trucking Associations has announced plans for filing with the commission a presentation taking the

position that status-quo of present "piggyback" operations should be maintained pending determination of legal questions involved in the inquiry. The executive committee, as the A.T.A. announcement put it, "also adopted as the trucking industry policy," this pronouncement:

"That A.T.A. endorses the principle that railroads should not be permitted to transport their own freight in their own or leased vehicles in coordinated rail-trailer operations except to the extent authorized by a certificate of public convenience and necessity issued under Part II of the Interstate Commerce Act."

Supreme Court to Consider N. Y., Phila. Loading Fees

The United States Supreme Court has agreed to review a lower-court ruling which upheld Interstate Commerce Commission decisions that permit railroads to charge for loading and unloading carload shipments of fresh fruits and vegetables at New York and Philadelphia.

Two commission decisions are in issue—a report of October 4, 1948, which authorized establishment of the charges, and a report on reconsideration, dated May 7, 1952, which permitted continuance of charges but required that they be reduced.

Two court cases are involved, the Secretary of Agriculture being complainant assailing the commission orders in one of them. Complainants in the other include Florida Citrus Commission and the Growers and Shippers League of Florida. The lower court which upheld the commission was a special three-judge court sitting in the United States District Court for the Southern District of Florida.

Rates & Fares

I.C.C. Proposes to Ease Tariff-Posting Requirements

The Interstate Commerce Commission has served notice of a proposal to modify tariff-posting requirements imposed on railroads and water carriers by Sections 6 and 306 of the Interstate Commerce Act. Those sections grant the commission authority to modify their requirements.

The commission's proposal is responsive to a petition filed by the Railroads' Tariff Research Group, which is engaged in an undertaking to simplify and otherwise improve tariffs.

The commission's notice said its proposed revision would change present posting regulations in these respects:

(1) Eliminate the requirement that each carrier file with the commission in the form of a tariff, and keep current, lists of tariffs in the files at each station where tariffs are required to be posted. Instead, tariff lists would be furnished the station agents concerned and they would be required to keep their tariff files complete.

(2) Eliminate the plan of naming points at which carriers must maintain tariff files. While the commission would retain power to name specific points, the proposed regulations would merely fix the number of tariff files to be maintained, based on the size of the carrier, and would permit the carrier to select the places.

(3) Eliminate the requirement that tariff files be inspected annually by traveling auditors or inspectors. A general admonition would be substituted to allow the carriers latitude to place in effect a system of "continuous control . . . looking toward the maintenance of tariff files in complete and readily accessible form."

Interested parties have until April 18 to advise the commission in writing "of any cause or reason why the commission should not hereafter prescribe" the proposed regulation. No formal hearing is contemplated, but informal conferences with members of the staff of the commission's Bureau of Traffic may be had, the notice also said.

Family Fares Cut Further

Children to go for quarter of one-way fare on UP, C&NW and Wabash—Extra fare lowered by Rock Island and SP—San Francisco commuters look over a Burlington gallery car

Western railroads in recent months have kept their passenger business in the public eye through a wide variety of developments—most of them designed with pocketbook appeal. Their "campaign" began last fall with introduction by many roads of a family-fare plan (*Railway Age*, September 21, page 12). Next came general revisions in Chicago-Los Angeles service by the Union Pacific, the Chicago & North Western and the Santa Fe (*Railway Age*, December 14, page 11).

Now the UP, the C&NW and the Wabash have agreed to make an even stronger bid for family travel, with reduction of fares for children between five and 12 to one-quarter of the one-way fare. As a further concession to family convenience, the head of the household may return to the point of origin on any day of the week independent of the family. (Under the original plan, the family had to travel together in both directions.)

These new features of the plan will go into effect March 1 and the three roads have agreed to extend the plan until January 6, 1955. It applies on all trains on the UP and all except Chicago commuter trains on the North Western. On the Wabash, it is applicable only to travel on trains operated jointly with the UP. E. A. Klippel, general passenger traffic manager of the UP, said "enthusiastic public reception" caused continuation of the plan, which began as an experiment to last only until February 28 of this year.

Extra Fare Cut—Another new development in the Chicago-Los Angeles field is reduction of the first-class extra fare charged on the "Golden State" of the Rock Island and the Southern Pacific. Formerly $10, it has been reduced to $7.50—the same as is charged on the Santa Fe's "Super Chief." The coach-class extra fare remains at $3.50.

The train itself is getting a new all-stainless steel exterior. Originally the equipment was bright red from rooftop to belt rail and stainless steel below.

Commuters—The SP recently borrowed one of the Burlington's gallery-type double-deck suburban coaches and put it on display in San Francisco's Third Street Station. The SP is considering purchase of new equipment for its San Francisco peninsula suburban service and asked its commuters what they thought of the gallery car. The inquiry was by postal card, replies have not been completely tabulated.

Coming—Early this summer the Santa Fe will bid for a share of Chicago-San Francisco traffic, when it introduces the new "San Francisco Chief."

R. T. Anderson, general passenger traffic manager, told some 200 of the road's passenger men, convening at Chicago January 29 and 30, that full-length dome cars now being built by the Budd Company will be placed in operation on the new San Francisco train; on the Chicago-Los Angeles all-coach "El Capitan," and on the "Kansas Cityan" and "Chicagoan" between Chicago and Kansas City.

Tariff Simplifier Will Be Argued February 17

February 17 is the date set for oral argument which the Interstate Commerce Commission's Division 2 will hear on the railroads' application for general relief from the long-and-short-haul clause of the Interstate Commerce Act's fourth section.

The application is F.S.A. 28580, and the relief sought would permit railroads with indirect routes to meet the competition of direct routes without circuity limitations or other restrictions of any kind. The proposal is part of the tariff simplification program being carried out by the Railroads' Tariff Research Group.

Meanwhile, Division 2 has postponed, "until further order," the effective date

of circuity limitations which the commission attached to the Fourth Section relief it granted in connection with the No. 28300 class rate adjustment. Such postponement was sought in a pending railroad petition (*Railway Age*, January 11, page 212) which will also be involved in the February 17 argument.

Tariff Simplification in 1953

Report of railroad committee shows how general phase of project has moved far toward completion; savings seen

That phase of the railroads' tariff-simplification project which is concerned with the standardization of tariffs and tariff-making with respect to form, style, arrangement and typographical design moved far toward completion in 1953.

This was pointed up in a report made recently by the Administrative Committee of railroad traffic officers which supervises the work of the Railroads' Tariff Research Group. The report covered last year's activities of the group which consists of Chairman Charles S. Baxter, Alan M. White, and Edward V. Grosvenor.

Moving Along—That part of the project referred to above is called Section A, Tariffs in General. Of progress made on it last year, the report said:

"With the exception of routing provisions and the general rules of tariffs this particular program is approximately 80 per cent completed, and it is the results of this work which are showing up in new tariffs as they are issued. It has to be kept in mind that most of the tariffs had been reissued (or were well along in the process of reissue) to pick up the general increases when the tariff improvement program was launched, and the comprehensive scheme of recently conceived tariff-making specifications will not show up in them until they are next reissued."

As to routing provisions, the report went on to say that the research group's studies of that matter are "well advanced," and that "material progress" can be made once an understanding can be had with the Interstate Commerce Commission "concerning the varying shackles which have been placed upon indirect routes in the administration of the fourth section." That situation is now before the commission in the railroads' Fourth Section Application No. 28580.

Savings Per Minute Add Up—To point up prospective benefits from this general phase of the simplification project, the report referred to "a recent advertisement in *Railway Age*" which "emphasized the value and importance of a saving of one minute per freight train-mile through the use of the advertiser's product." Many of the tariff improvements adopted, the report added, "will effect a saving of a minute or more per rate check next year and for years to come, during which time the railroad rate clerks, claim clerks and auditors and the shippers will have checked literally trillions of rates."

Later on the report said that savings of "between a quarter and a half million dollars a year" will result from "by-products" of the group's work which have turned up in the form of "ways to streamline processes, eliminate unnecessary steps and actions and reduce administrative work-loads." In this one area, the report also said, "the total cost of maintaining the group has been repaid several times over." The group's 1953 expenses were $75,999.

As to eventual savings and benefits, however, the report had this to say: "The entire program is geared to achieve savings to railroads and other interests employing tariff users through so improving the efficiency of tariffs as to get more and better work from this large group of employees. . . While tangible benefits can already be seen, the investment made in carrying on this work is as yet largely an investment toward future rewards in the form of greater efficiency."

Rate-Makers Must Help—Meanwhile, the report had dealt briefly with other phases of the simplification project which include a program concerned with substantative tariff matter (commodity description, rate alternations, application of intermediate rules, etc.) in its relation to tariff complexity. "These," the report added, "are matters basically within the control of the rate makers and their organizations since they necessarily must touch upon rate application and the . . . group cannot enforce remedies. It can and does make exhaustive surveys and indicate plausible and productive remedies and courses of action. But the success or failure of this part of the program is dependent upon the stewardship of the rate-making organizations."

N.I.T. LEAGUE HAS "FULL CONFIDENCE" IN PROGRAM

After reading the report on tariff simplification which was made by the railroads' Administrative Committee, John W. Peters, chairman of the National Industrial Traffic League's Cooperating Committee, made this comment:

"Completely satisfactory progress was made during 1953 by the group, and the league at its annual meeting in New Orleans in November of 1953 expressed full confidence and appreciation for this activity . . .

"We look forward with zest and high hopes for greater accomplishments during 1954 under the able leadership and planning of the Tariff Research Group."

Traffic

Rock Island Joins Dallas Industrial District

The Rock Island has joined with the Brook Hollow Industrial District near Dallas, Tex., and will serve exclusively all industries that in the future may locate on a 350-acre triangle which fronts along the road's main line. The road's industrial development and freight traffic staffs will work with the district organization to develop the area through location of light and heavy industry and warehousing.

The Missouri-Kansas-Texas, which serves another portion of the new district, has already begun construction of trackage, according to an announcement by President Donald V. Fraser. The project entails construction of an overpass to cross Harry Hines boulevard and connect district land with the road's Denton branch. It is contemplated that this work will be completed about March 1.

Department of Defense's Transport Office Realined

There has been a realinement, within the Department of Defense's Transportation Division, of functions assigned to the Traffic Management Branch and the Transportation Planning Branch.

This was announced February 1 by Earl B. Smith, the department's director of transportation and communications. He explained that the purpose of the realinement was two-fold: To provide more effective relationships with other units of the department, other federal agencies, and the transportation industry; and to consolidate within the Transportation Planning Branch functions formerly handled by the assistant for international planning.

Staff director for transportation, under Mr. Smith, is Colonel Norman H. Vissering. Heading the branches are William P. Guiler, assistant for transportation planning, and Francis X. Dunleavy, assistant for traffic management.

Within the Transportation Planning Branch is a Land Transportation Section, of which C. A. Simpson is chief. Chiefs of the branch's other two sections (air and water transport) will

be appointed "shortly," the February 1 announcement said.

The three sections of the Traffic Management Branch and their chiefs are: Freight Traffic, Allen J. O'Brien; Passenger Traffic, Earle S. Newman; Cost and Statistical Analysis, Delbert M. Steiner.

Advisory Board Complacency?

Shippers must speak up; be frankly and hopefully critical of rail services "if we are mutually to benefit," Lackawanna chief warns Mid-West board

"During the past six months I have been shocked and dismayed to have responsible shipper representatives in the province of four different shippers advisory boards talk to me with concern about the lessening interest in the boards and their work. Why is this so?," Perry M. Shoemaker, president of the Lackawanna, asked more than 600 members of the Mid-West Shippers Advisory Board and the Traffic Club of Chicago at a joint luncheon January 21.

"Looking at both shippers and railroad men, I wonder if we have drifted toward regarding the advisory board as an implement for emergency use—car shortage, heavier loading, wartime problems, etc.—rather than a vehicle for progressive and constructive improvement in railroad transportation by means of frank discussions between us. I detect indications of complacency. I suspect failure to be frankly and hopefully critical. Limiting discussion to the results of yesterday, rather than to the needs and plans for tomorrow, does not build better transportation."

It is easy to recite details of the railroads' $9-billion post war improvement program, the application of new operating techniques, and the resulting new highs in operating efficiency, Mr. Shoemaker said.

"But this does not answer one fundamental question—how satisfactorily has been the handling of the shipper's individual carload, or his less-carload shipment? Mass transportation statistics must stand the test of analyzed individual movements. It is in this field that 1954 brings us our great challenge and our great opportunity, for it is here that we do not measure up to the standards within our reach. The handling of too many individual cars and shipments is susceptible of much improvement. That is why I urge shippers and railroad people alike to use the front door approach and face existing facts."

L.C.L. — Speaking "very bluntly" about less-carload freight, he said that last year the Lackawanna had an operating ratio on such traffic of about 80 per cent—"including a portion of yard expenses not recoverable if no l.c.l had been handled." He continued: "That means we want every shipment of less-carload freight we can secure. We are advertising for it. We are soliciting it. In plain language, however, a substantial part of longer distance interline movement is not well handled and for this I charge the shipping public with at least partial blame."

A satisfactory overall service cannot be provided, he stated, if tonnage is largely limited to small shipments for small points ("shipments which our common carrier status requires us to handle but which our competition all too often seems reluctant to encourage").

The absence of "foundation freight" (basic cars between larger centers) means repetitive loading at intermediate transfers with high carrier rehandling cost; exposure to damage; and delay. "I urge volume shippers of l.c.l. freight to reexamine critically the shipping policy of their respective companies."

For RR Traffic Men.—To railroad traffic men in his audience, Mr. Shoemaker said:

- "If our service fails to meet the need of a customer, if it fails to satisfy, your job is to raise the roof with your operating associates until it does. And there is not a railroad president who will not stand behind you.
- "If rate adjustments are necessary to fit the needs of our customers, and if they are honestly justified from their standpoint and ours, then go after them the same way through traffic channels established for that purpose."

Board Action—Before Mr. Shoemaker's talk, members of the board heard:

(1) Strong demands by representatives of machinery and farm equipment manufacturers for an increase in the size of the nation's flat car fleet;

(2) W. E. Callahan, manager of the Open Top Section of the A.A.R.'s Car Service Division, attribute the present "recession" to reduction of inventories "which should level off soon," with carloadings returning to a basis more nearly comparable to last year;

(3) Criticism from shippers of car shop-force layoffs during a 'temporary lull in traffic which could be advantageously used for repairing bad orders and upgrading other cars"; and

(4) The l.c.l. committee suggest publication of more through schedules; a six-day work week at freighthouses; better records at transfer points to assist tracing; substitution of trucks for box cars on cross-town (intra-terminal) traffic; and faster, more accurate tracing information.

Elected — C. R. Purcell, manager, transportation department, Quaker Oats Company, Chicago, was elected general chairman of the board to serve throughout 1954. P. G. Jefferson, general traffic manager of Fairbanks, Morse & Co., Chicago, was elected alternate general chairman, and A. C. Shaw, traffic manager, Curtis Company, Clinton, Iowa, was named general secretary.

TWO RAILROAD PRESIDENTS — Frederic C. Dumaine (left), president and chairman of the New Haven, is greeted at Presque Isle, Me., by Curtis M. Hutchins, president and chairman of the Bangor & Aroostook, early in January. Both men spoke to more than 100 members of the Presque Isle Rotary Club and visited potato storage houses.

UP Reveals Ore Deposits

Iron and military-vital titanium found in southeastern Wyoming on lands largely owned or controlled by the road—Thirty-mile railroad surveyed to reach deposits

Large deposits of iron ore—much of it rich in the now-strategic metal titanium—has been discovered by exploratory drilling in Albany county, Wyo., some 25 miles northeast of Laramie. Although it was known that some 178,000,000 tons of ore existed in near-surface deposits, further drillings by Union Pacific geologists during the past year have upped that estimate by another 50,000,000 tons, William Reinhardt, vice-president in charge of oil and other geological development, revealed on January 30.

Part of the ore, Mr. Reinhardt told the Colorado Mining Association, has been found to average 46 per cent iron, 19 per cent titanium and about one per cent vanadium. He added that while much of the material is of lower grade, the titanium-bearing deposits may prove to be the largest of their type in the U.S. (Titanium is essential in the building of jet aircraft and it has other military and industrial uses.)

The iron-titanium deposits are located in a 250-sq. mi. area surrounding the major ore body on Iron mountain. The UP owns or controls at least 60 per cent of the deposits and, in anticipation of their development, has surveyed a 30-mile spur line to reach them, Mr. Reinhardt revealed.

More? — The road's detailed exploration by drilling was conducted under direction of D. B. Pinnell, field manager of exploration and development, and J. A. Marsh, the UP's chief geologist for minerals. In technical reports presented to the Colorado Mining Association meeting, they stated that the deposits could be mined by open pit methods for many years. They said continuing exploration may disclose large additional ore reserves.

The nearest existing UP trackage is the main line between Laramie and Rawlins, which passes to the west of the deposit site. The Denver-Billings, Mont., line of the Colorado & Southern and Chicago, Burlington & Quincy also passes near the area.

Safety

Safety Bureau Reviews Fiscal '53

Annual report covers hours of service, inspection of equipment and signal and communications systems

Safety work carried on by the I.C.C.'s Bureau of Safety was pointed up in an annual report made public by the commission January 27. The report, prepared by S. N. Mills, the bureau director, covers activities for the year ended June 30, 1953.

Contained in the 33-page report are figures showing results from inspection of safety appliance equipment on railroads. The report also has information concerning hours of service of railroad employees; installation and inspection of signal systems, interlocking and automatic train-stop and train-control devices; investigation of accidents; prosecutions for violations of railroad safety laws, and other activities of the bureau.

During the year under review, 1,253,590 freight cars, 38,115 passenger-train cars, and 14,303 locomotives were inspected, compared with 1,185,675 freight cars, 29,079 passenger-train cars and 13,184 locomotives in fiscal 1952. Of the 1953 total, 3.68 per cent of the freight cars, 3.41 per cent of the passenger-train cars and 1.97 per cent of the locomotives were found to be defective, compared with respective 1952 figures of 3.67 per cent, 3.76 per cent and 2.5 per cent.

Air brakes tested on 2,754 trains (consisting of 121,710 cars) prepared for departure from terminals were found operative on 121,568 cars, or 99 per cent. This percentage was attained, however, after 2,500 cars having defective brakes were set out, and repairs made to brakes on 2,158 cars remaining in the trains.

Similar tests on 1,386 trains arriving at terminals with 76,839 cars showed that air brakes were operative on 75,488 cars, or 98.2 per cent. Approximately one car per train was not controlled by power brakes.

Geared Hand Brakes — In the matter of geared hand brakes, the bureau report noted that certificates of approval issued by the Association of American Railroads are currently in effect for 33 types—21 vertical wheel types, nine horizontal wheel types and three lever types.

During fiscal 1953, 154 of 636 railroads filing hours-of-service reports reported 6,546 instances of all classes of excess service, a decrease of 2,046 compared with the previous year. The 1953 figure included 920 instances of excess service by train-service employees subject to the 16-hr. provision of the law, and 5,626 instances of excess service by operators and other employees subject to the 9-hr. and 13-hr. provisions of the law.

Wrecking and relief service, collisions and derailments, and "miscellaneous causes" were principal reasons for 761 instances in which train-service employees remained on duty longer than 16 consecutive hours. Sickness, death and personal injury accounted for 4,263 of the 5,626 instances of excess service among employees subject to the 9-hr. and 13-hr. provisions of the law.

During the year, 113 cases of violation of safety-appliance laws, comprising 376 counts, and one case of violation of hours-of-service law, comprising 9 counts, were transmitted to United States attorneys for prosecution. Also handed over to U.S. attorneys was one case of violation of the signal inspection law, comprising 10 counts.

Signal Facilities—As of January 1, 1953, there were 108,716.6 miles of road (140,866.8 miles of track) equipped with block-signal systems, including automatic block signals on 78,958.5 miles of road (109,857.3 miles of track). On the same date, there were 4,332 interlockings in operation and 13,625.6 miles of road (25,143.9 miles of track) equipped with automatic train-stop, train-control and cab-signal devices.

According to reports submitted by the carriers, there were 111 train communication systems in service on lines of 52 different railroads as of January 1, 1953, midway of the fiscal year. Included in these systems were six installations providing radio-telephone service for passengers through telephone company mobile radio facilities.

There were also 220 installations in service in yards and terminals on 70 railroads, with 204 of these installations providing communication between fixed stations and switching engines. Sixteen of the installations provide communication between portable pack radios, between fixed stations and portable pack radios, and between fixed stations and mobile units other than engines used in yard operations.

Collisions—Of the 36 collisions investigated by the Bureau of Safety, 24 occurred on lines operated by the block system, 11 on lines operated by the timetable and train-order system, and one where yard and miscellaneous operating rules were in effect.

The collisions resulted in the death of 69 persons and in injury to 566. The bureau also investigated 17 derailments, which altogether resulted in deaths of 23 persons and injury to 475. In seven accident reports, the bureau recommended in six cases, "That carrier provide adequate protection for

the movements of track motor cars."

Grade Crossings — During the calendar year 1952 there were 3,592 accidents at highway grade crossings, which resulted in the death of 1,407 persons and in injury to 3,904. There were 69 derailments of trains as a result of collisions with automobiles, resulting in the death of 26 persons and injury to 72. Casualties to persons on trains from derailments and other train accidents at highway grade crossings consisted of five killed and 101 injured.

Figures of the Week

Freight Car Loadings

Loadings of revenue freight in the week ended January 30 totaled 628,190 cars, the Association of American Railroads announced on February 4. This was an increase of 10,964 cars, or 1.8 per cent, compared with the previous week; a decrease of 69,252 cars, or 9.9 per cent, compared with the corresponding week last year; and a decrease of 103,028 cars, or 14.1 per cent, compared with the equivalent 1952 week.

Loadings of revenue freight for the week ended January 23 totaled 617,226 cars; the summary for that week, compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, January 23

District	1954	1953	1952
Eastern	111,848	125,139	128,677
Allegheny	119,936	145,553	150,847
Pocahontas	47,474	51,870	62,756
Southern	117,786	128,590	136,279
Northwestern	65,622	77,816	70,877
Central Western	102,658	110,055	116,256
Southwestern	51,902	58,492	62,323
Total Western Districts	220,182	246,363	249,456
Total All Roads	617,226	697,515	728,015
Commodities:			
Grain and grain products	43,048	45,182	49,528
Livestock	7,474	8,040	8,580
Coal	125,364	127,387	160,419
Coke	9,774	15,685	16,201
Forest products	36,003	43,088	42,522
Ore	15,592	20,364	18,178
Merchandise l.c.l.	60,458	67,379	70,625
Miscellaneous	319,513	370,390	361,962
January 23	617,226	697,515	728,015
January 16	619,871	705,017	747,660
January 9	624,229	688,110	744,710
January 2	477,805	562,957	610,116
Cumulative total, four weeks	2,339,131	2,653,599	2,830,501

In Canada.—Carloadings for the seven-day period ended January 14 totaled 66,521 cars, compared with 51,104 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
January 14, 1954	66,521	26,575
January 14, 1953	72,048	29,096
Cumulative Totals		
January 14, 1954	117,602	48,337
January 14, 1953	127,913	53,384

Education

American University Plans Eighth Railroad Institute

The eighth Rail Transportation Institute to be conducted by the American University, Washington, D.C., will be held March 2-26. Dr. L. M. Homberger, professor of transportation at the university, will be director.

Among those scheduled to lecture at the institute are Robert S. Henry and A. R. Seder, vice-presidents of the Association of American Railroads, and Graham E. Getty, assistant vice-president of the association and assistant director of its Bureau of Railway Economics. Also, Daniel P. Loomis, chairman, Association of Western Railways; K. N. Merritt, vice-president, Railway Express Agency; J. J. Nolan, vice-president—traffic, Pullman Company; and L. K. Sillcox, honorary vice-chairman of board, New York Air Brake Company.

Chairman J. Monroe Johnson of the Interstate Commerce Commission and Dr. Julius H. Parmelee, consulting economist and former vice-president, A.A.R., will be speakers at the institute's supper meetings. I. C. Commissioner Anthony F. Arpaia will speak at the closing dinner, when certificates will be awarded to students completing the course.

The university's announcement said students may be selected by their employers, and that others may apply by submitting information about their educational background. No specific education is required, and there is no age limit.

Applications for admission should be addressed to Dr. Homberger, American University, 1901 F Street, N. W., Washington 6, D. C. February 25 will be the last registration day. Tuition will be $135.

19 Railroaders Attended A. U. Traffic Institute

Nineteen railroad traffic men were among 78 students who completed the Sixth Institute of Industrial Transportation and Traffic Management which was held last month at the American University, Washington, D.C. Dr. L. M. Homberger, professor of transportation at the university, was director at the institute.

The 19 railroaders included 12 from the Chesapeake & Ohio, four from the Santa Fe, two from the Frisco, and one from the Milwaukee. A C&O man—William A. Hansen, traveling freight agent, Buffalo, N.Y.—delivered the class address at the institute's closing dinner, where certificates to those completing the course were presented by President H. R. Anderson of the university.

Also on the dinner program was an address on "Preparation for the Traffic Profession," delivered by E. F. Lacey, former executive secretary of the National Industrial Traffic League. Speakers at the institute's two other dinner meetings were Interstate Commerce Commissioner Howard Freas, and Major General Paul F. Yount, the Army's chief of transportation.

People in the News

Douglas McGregor Joins F. R. P. Executive Council

Douglas McGregor, president of Antioch College, Yellow Springs, Ohio, has been named to the executive council of the Federation for Railway Progress. Dr. McGregor was appointed to represent F.R.P.'s "public members" for one year to fill the unexpired term of William N. Leonard, who recently became president of the federation.

Kerr Joins Northwestern

William S. Kerr, executive assistant to president of the Burlington, has been appointed business manager of Northwestern University.

Mr. Kerr joined the Burlington in 1936. Returning to it in 1946, after World War II military service, he was, successively, division superintendent; assistant to general manager, and executive assistant to president. From December 1952 to February 1953 he was on leave of absence as a member of the group headed by Ralph Budd to study Brazilian railway problems.

HARRY RUBENKOENIG, who has retired as professor of railway mechanical engineering at Purdue University. Mr. Rubenkoenig, born in Graham, Tex., March 29, 1884, graduated from Texas A. & M. in 1904, served a three-year apprenticeship in the Santa Fe's mechanical department, and then spent one year with the Kansas City Southern at Pittsburg, Kan., and four years with the Missouri-Kansas-Texas at Parsons, Kan. He joined Purdue's teaching staff in 1914.

Organizations

Operating, Mechanical Groups Cancel Meetings

The 1954 annual meetings of divisions and sections under jurisdiction of the Operating and Maintenance Department of the Association of American Railroads have been cancelled.

The cancellation actions were pursuant to a directive issued by A.A.R. Vice-President R. G. May. Mr. May's notice to division and section officers indicated that the matter might be reopened later if the economic outlook then seems to warrant reconsideration.

Meetings canceled were those scheduled for this year by the:

- Mechanical Division;
- Electrical Section;
- Communications Section;
- Freight Claim Division;
- Freight Loss and Damage Prevention Section;
- Protective Section;
- Freight Station Section;
- Medical and Surgical Section;
- Safety Section; and
- Fire Protection and Insurance Section

A.R.E.A. Not Involved—The cancellation order does not affect the Engineering Division. That division is thus proceeding with its plans for participation with the American Railway Engineering Association in their annual meeting scheduled for next month at Chicago. Not yet determined is the fate of meetings scheduled for next September by the Coordinated Mechanical Associations, which include the Air Brake Association; Car Department Officers' Association; Locomotive Maintenance Officers' Association; Master Boiler Makers' Association; and Railway Fuel and Traveling Engineers' Association.

"Transport Must Always Be Ready for an Emergency"

Rigorous demands would be laid upon the transportation industry by another war, Major General Paul F. Yount, U.S. Army chief of transportation, told the Northwest Shippers Advisory Board at Minneapolis January 28.

"All transportation equipment and facilities should be kept in first-rate operating condition, ready for an emergency," he said, adding that:

- Transportation terminals must be reestablished outside large metropolitan areas—or at least dispersed so all would not be destroyed in one blow.
- Every encouragement should be lent to construction of rail and highway routes which bypass potential target areas.
- No vital area should be dependent upon a single mode of transportation.
- Each mode must be ready to take on additional loads brought about by disruption of others.

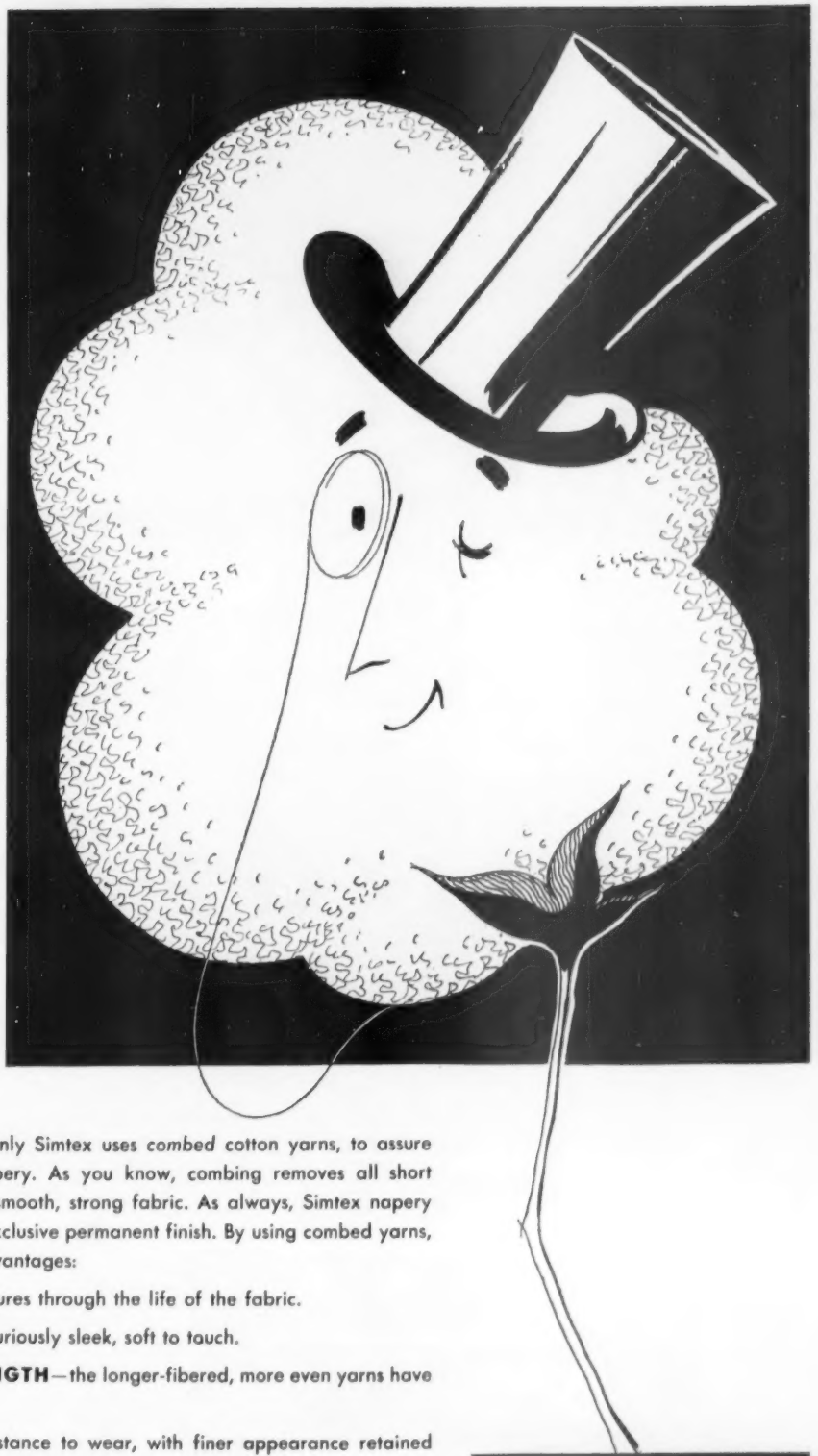
An encouraging picture of the na-

(*Continued on page* 80)

presenting

COMBED COTTON

—tops for quality napery



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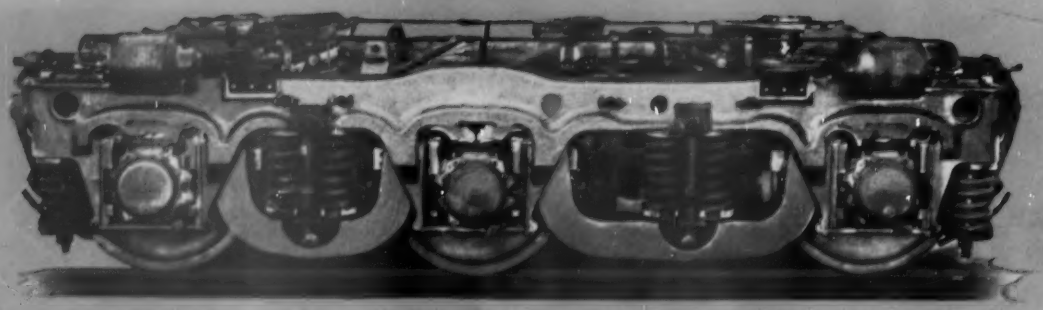


Commonwealth 6-Wheel 3-Motor Truck for 2400 H.P.
Fairbanks-Morse Train Master Locomotives.

The Proven Design

One-Piece Cast Steel 6-Wheel
Motor Truck Frame.

Fairbanks-Morse Train Master Locomotive Equipped
with Commonwealth 6-Wheel 3-Motor Trucks.

GENERAL STEEL

2400 H.P. Train Master Locomotive Built by Fairbanks-Morse.

# of One-Piece Cast Steel Truck Frames Assures Maintenance-Free Performance for COMMONWEALTH Diesel Motor Trucks

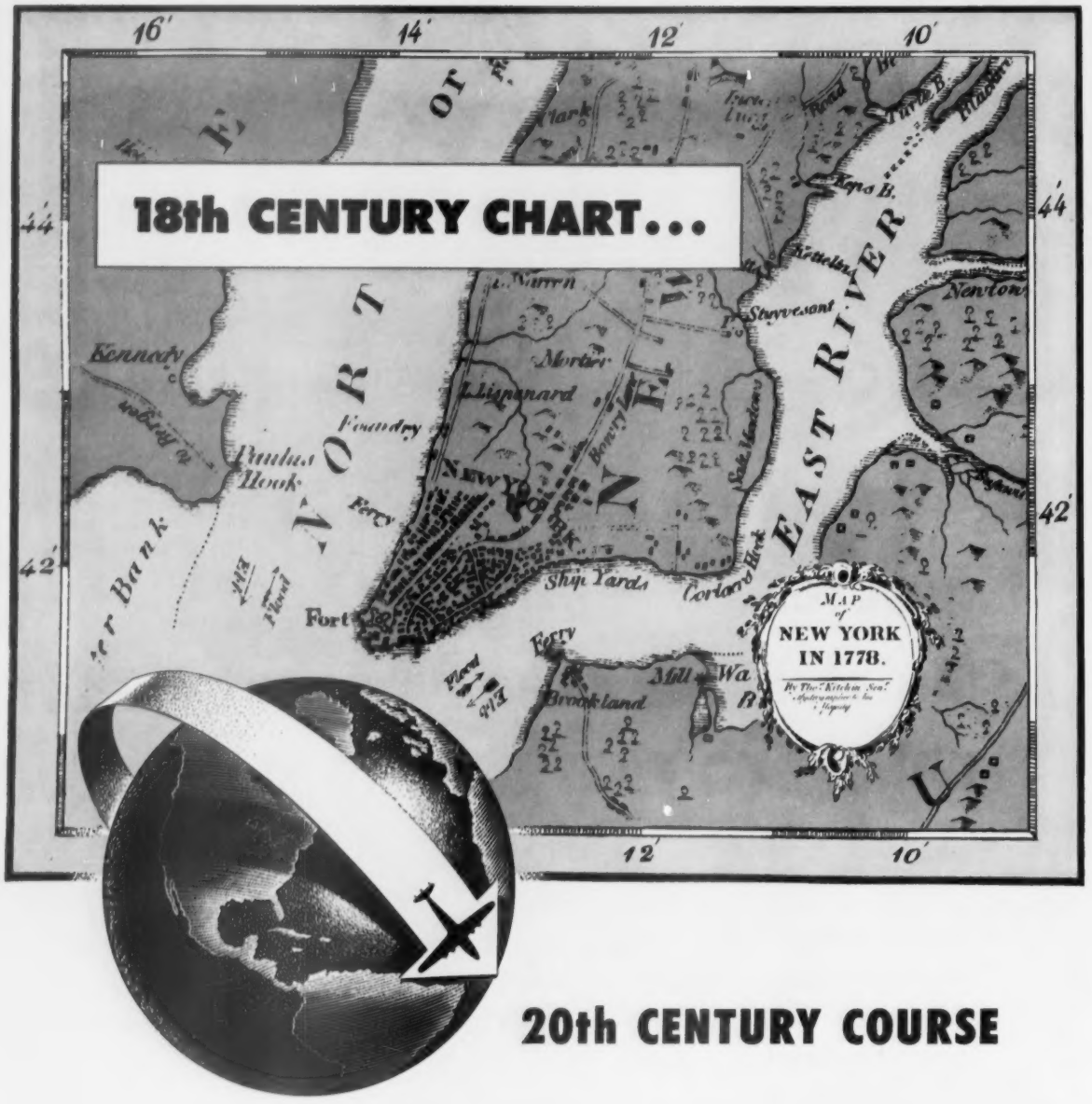
COMMONWEALTH Motor Trucks provide exceptionally dependable performance, most economical operation, and easy riding at all times. The well-designed rugged steel castings assure maintenance-free life and increased locomotive availability.

Train Master locomotives have COMMONWEALTH 6-wheel 3-motor trucks arranged with equalizers for positive equalization and all-coil springing with snubber control. This design of truck provides maximum accessibility to all motors.

Over many years, thousands of Diesel locomotives of every type have been built with COMMONWEALTH Motor Trucks.

CASTINGS

GRANITE CITY, ILLINOIS
EDDYSTONE, PA.



20th CENTURY COURSE

First in New York to chart and explore the field of local banking, The Bank of New York in 1954 is following a course which meets the multiple banking needs of commerce and industry, both at home and overseas.

The Bank was founded by a group of New York's leading merchants in 1784. Business concerns and individuals continue to find here a quick understanding of their needs. Among our services are specialized Trust and Investment Counsel Departments. All our complete and up-to-date facilities are at your disposal.

THE BANK OF NEW YORK

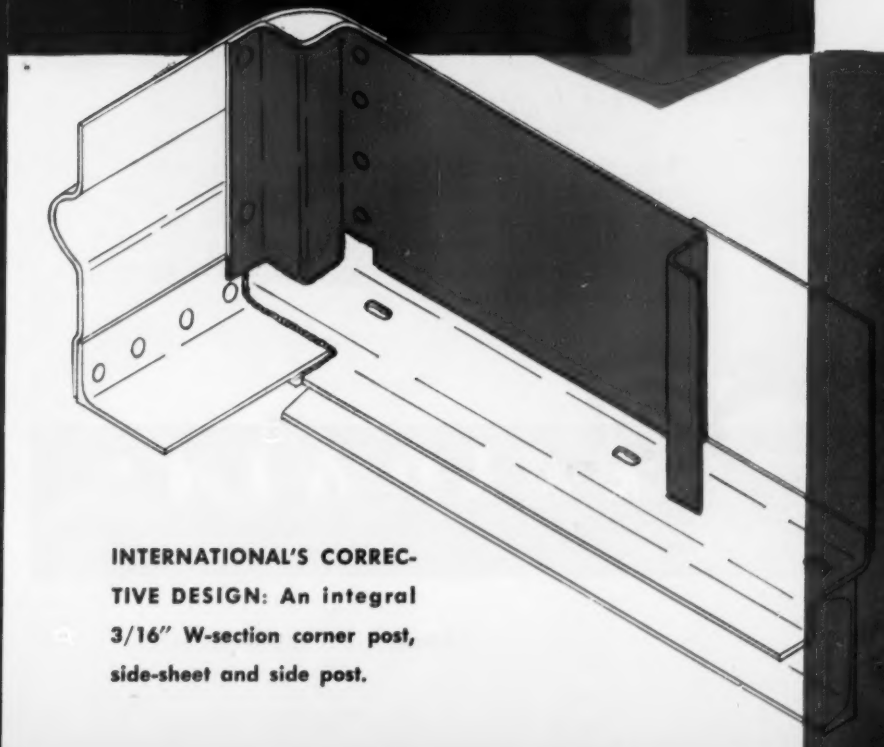
New York's First Bank • Founded 1784

Main Office: 48 WALL ST. ☆ Uptown Offices: 530 FIFTH AVE. ☆ MADISON AVE. AT 63rd ☆ MADISON AVE. AT 73rd

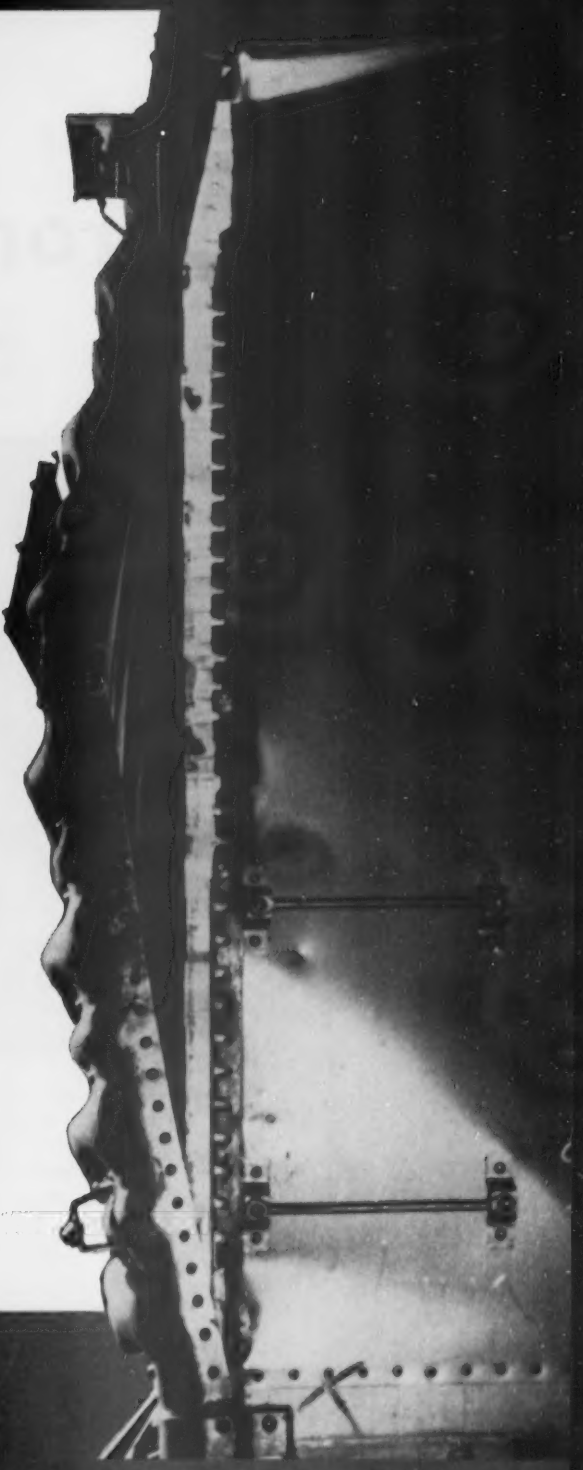
Member Federal Deposit Insurance Corporation

This happened to a new car!

it couldn't happen here



INTERNATIONAL'S CORRECTIVE DESIGN: An integral 3/16" W-section corner post, side-sheet and side post.



International Steel

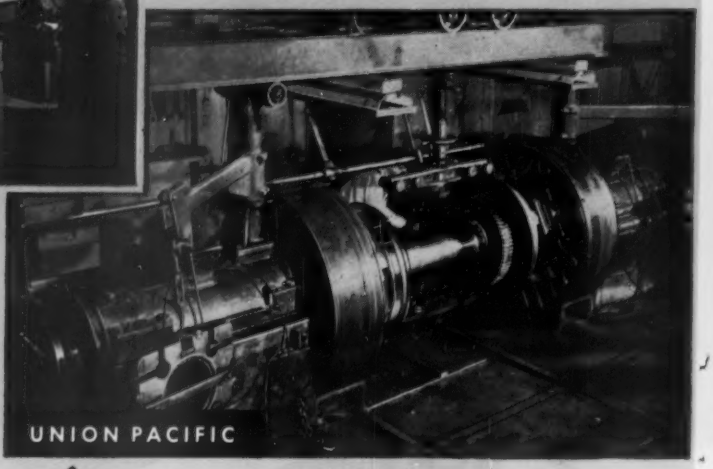
COMPANY

RAILWAY DIVISION
EVANSVILLE 7, INDIANA

From Coast-to-Coast are cutting

◀ Niles car wheel borer

Fast, accurate, push-button machining means big savings in time for the Atchison, Topeka & Santa Fe Railroad. Above, a car wheel is being loaded into the Niles 48" hydraulic car wheel borer in their San Bernardino (Calif.) Shops.



▲ Niles 52" car wheel lathe

Better than 50% savings in wheel re-turning time resulted when the Union Pacific installed this Niles wheel lathe with tungsten-carbide tipped tools and profiling attachment. The UP Los Angeles Shop can turn down a wheel in about 20 minutes. Photo shows rear view of lathe finish-profiling a large wheel set.

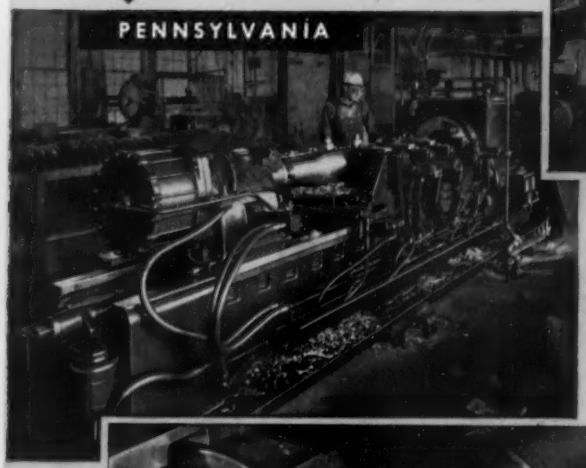
BALDWIN · BLH · LIMA-HAMILTON

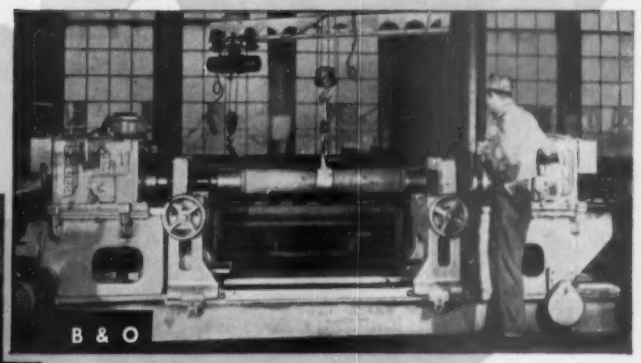
BALDWIN-

NILES TOOLS
wheel shop costs

Niles end drive axle lathe

In their Altoona Shops, the Pennsylvania Railroad turns complete axles on this Niles end drive axle lathe with four carriages. This lathe has the modern controls, feeds and speeds which enable most users to machine an entire axle in less than half the time ordinary methods require.





Niles hydraulic axle centering machine

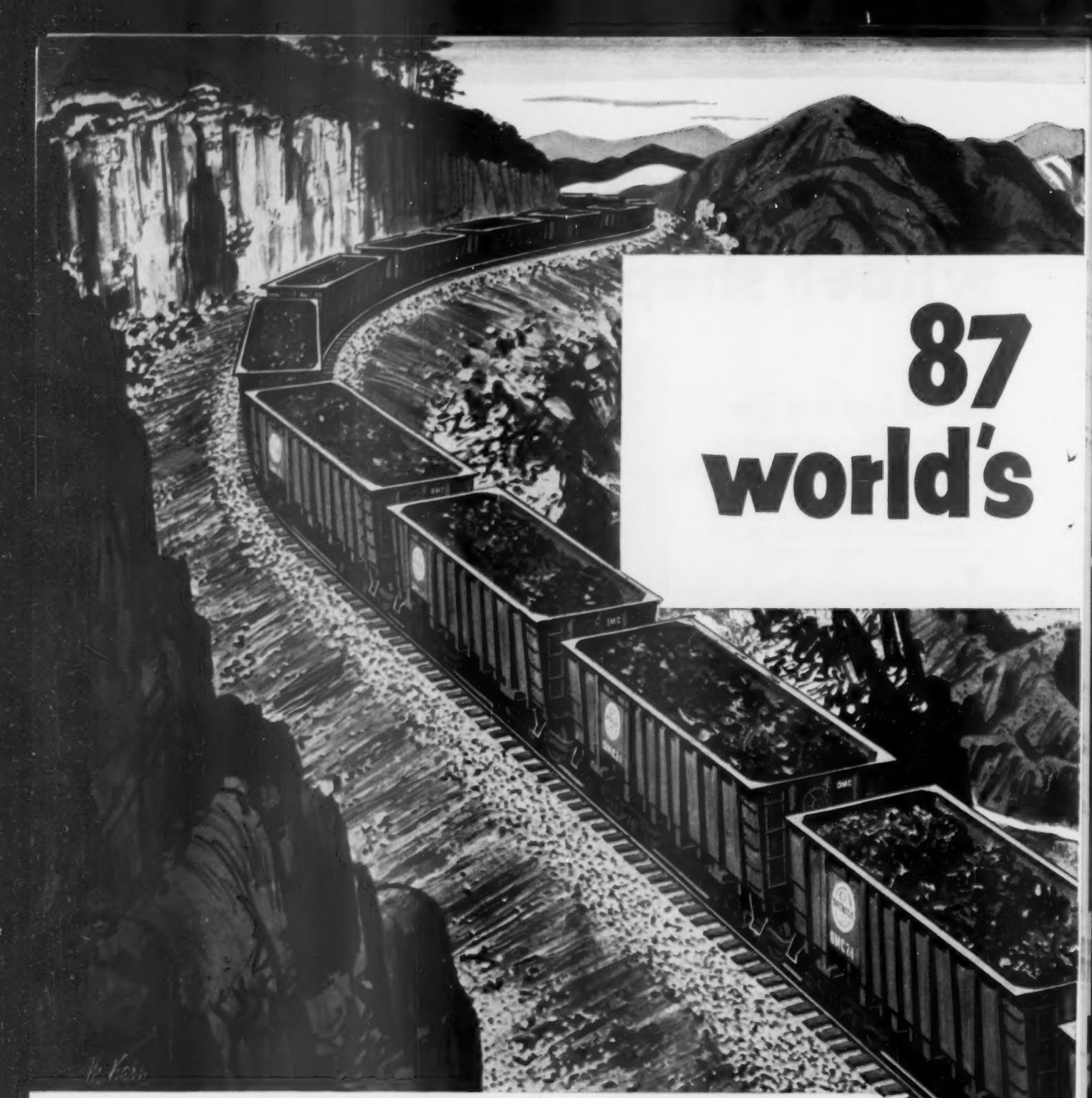
This Niles machine centers axles faster and more uniformly for the Baltimore & Ohio Railroad in their Glenwood (Pittsburgh) Shop because chucking is automatic and, therefore, more positive. Precise concentricity results in minimum waste of metal and time in machining that follows.

Niles hydraulic burnishing lathe

The first machine of this type built by Niles Tool Works is burnishing the outer journal of a freight axle in the Roanoke Shop of the Norfolk and Western Railway. Hydraulic power speeds all loading and adjustments, avoids operator fatigue and accidents. Photo suggests how this modern burnishing lathe produces a uniformity of finish to further reduce hot box frequency.

LIMA-HAMILTON

HAMILTON DIVISION HAMILTON, OHIO



87 world's

Result of intensive study by Magor and Orinoco Engineers . . .

These ore cars utilize the best features of existing ore cars, with a number of innovations and improvements for service on the Orinoco. ASF Ride-Control Trucks, Bolsters, Simplex Brakes and Type "F" Interlocking Couplers are standard equipment.

They've found the answers to some problems that are unique in railroading . . . on

miles of the toughest main line!

• To fully appreciate what "Orinoco" means to railroading, you'd have to actually run a fully loaded, 90-ton ore car down an 8-mile drop in 87 miles! That, in brief, describes United States Steel's engineering feat that stretches from the Orinoco mine face to the Puerto Ordaz docks in Venezuela.

Hauling heavy loads under these conditions calls for unusually rugged ore cars. Magor Car Corporation is providing the answer: cars that are designed to take extreme punishment—*almost continuously*. Otherwise, repairs would run costs sky-high in an area with restricted maintenance opportunities.

Smooth riding ASF Ride-Control Trucks mean less damage to the cars and roadbed. ASF Simplex Clasp Brakes ease the loaded cars down the grade, and ASF Type "F" Interlocking Couplers provide the needed additional strength and protection against accidental train partings.

It's a source of pride that ASF was selected to furnish the basic running gear, of course. The problems of the Orinoco were a challenge to the best we had to offer. Helping to solve them is the kind of experience that keeps ASF in step with progressive railroading.

AMERICAN STEEL FOUNDRIES

410 N. Michigan Avenue, Chicago 11, Illinois

Canadian Sales: International Equipment Co., Ltd., Montreal 1, Quebec

ASF

World's largest builders of railroad running gear

FAMOUS LAST WORDS:

"it may never happen"

True—and let's hope it never does. But the moment when we're least expecting it would be the best moment for an aggressor to attack. And the atom bomb isn't the only emergency that may hit us. Fires, floods, explosions, tornadoes also strike with little or no warning. Be ready for disaster, whatever form it takes. Do these simple things TODAY:

- ☐ **Enlist the help of your local Civil Defense Director.**
- ☐ **Check contents and locations of first-aid kits.**
- ☐ **Send staff to Red Cross courses. They may save your life.**
- ☐ **Promote preparedness in your community. Your local CD Director can show you how.**

Set the standard of preparedness in your plant city—check off these four simple points NOW.

RAILWAY AGE

YALE *first to offer*

"3-Way-Finance-Plan"

The most flexible finance-lease plan available to industry

Look what you get! A payment plan "tailored" to meet your needs . . . plus prompt delivery of the Trucks you choose.

Time payment plan

Now, you can have the YALE TRUCK you need on lowest monthly charges . . . after a small down payment. You get immediate, cost-cutting use from America's best-known Industrial Trucks . . . have years to pay.

Leasing plan

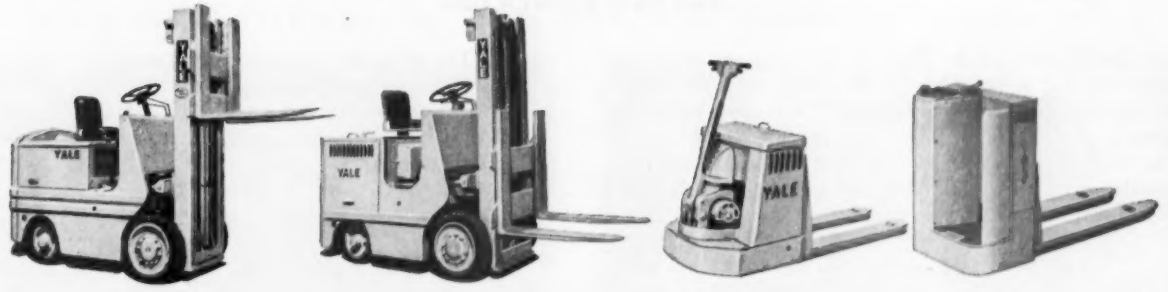
The length of leasing period depends entirely on your requirements. But, whatever you choose, no capital outlay is required . . . and the monthly rentals are often tax deductible as current operating expenditures.

Lease with purchase-option

Get the advantages and savings of the straight lease plan: no initial cash outlay . . . small monthly rentals . . . immediate use. But, you can arrange for full title by paying an additional sum at end of contract period.

See how quickly a Yale Truck pays for itself in your plant or warehouse

And, every YALE TRUCK . . . Gas, Electric, Diesel, LP-Gas . . . is the finest of its type . . . the modern mechanized equipment that, for many firms, has cut handling costs in half . . . then in half again.



Gas, Electric, Diesel and LP-Gas Trucks • Worksavers and Warehousers

YALE*

INDUSTRIAL TRUCKS AND HOISTS

*Reg. U. S. Pat. Off.

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Company, Dept. 482
Roosevelt Boulevard, Philadelphia 15, Pa.

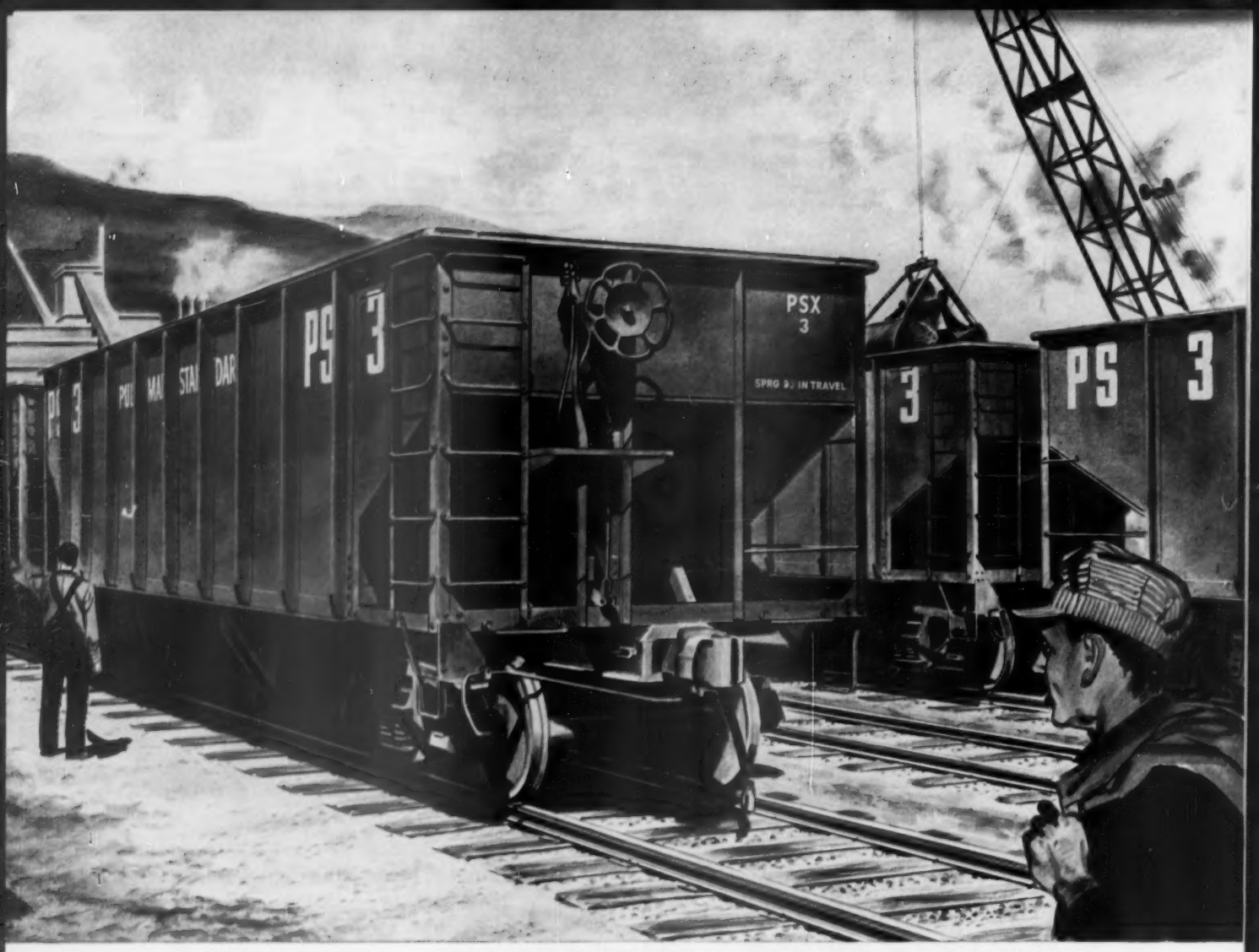
Please have your local representative call with complete information on the YALE *"3-Way-Finance-Plan"*

Company_____

Name_____ Title_____

Street_____ City_____ State_____

In Canada write: The Yale & Towne Manufacturing Company
St. Catharines, Ontario, Canada



THE PS-3 HOPPER CAR

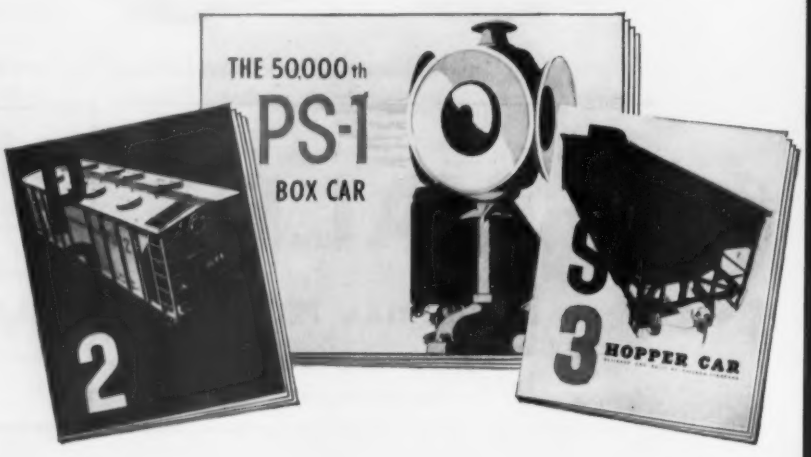
In the development of the PS-3, three important objectives dictated welded construction. They were, to provide: (1) maximum strength at all vital points, (2) maximum corrosion resistance and (3) smooth interiors for speedy unloading.

The PS-3 Hopper Car incorporates proven advantages. Virtually every type of hopper car in service today was studied. The effects of current handling practices were prime considerations in its design.

All of the components of the PS-3 are designed and constructed to work together as a unit to produce balanced strength throughout the car.

NEW BOOKLETS

Anyone concerned with Covered Hopper Cars, Box Cars or Hopper Cars will be interested in the facts, specifications and details contained in these illustrated booklets. Write for a copy of any one or all three.



ALL 3 → P-S Standardized Cars —provide top quality, economically

Have you seen the PS-3 Hopper Car? If not, you'll find it worth while to do so. Because, like the PS-1 Box Car and the PS-2 Covered Hopper Car, it affords all of the benefits of tested design and continuous production.

These cars reflect the total experience and resources of Pullman-Standard's engineers. It is the Research and Development engineers' job to help create and continually test components and completed cars. It is their assignment to always search for better ways to make better cars.

The stamina and continual improvement of the PS-1, 2 and 3 are influenced by "on-line" checking by Pullman-Standard's Sales and Service engineers. These men travel thousands of miles every month to observe performances under operating conditions—to obtain significant data on cars of all makes.

Be sure to see the standardized PS cars that are proving, to more and more railroads, that *top quality can be produced economically through standardization.*

YOUR NEEDS CREATE THE PULLMAN "STANDARD"

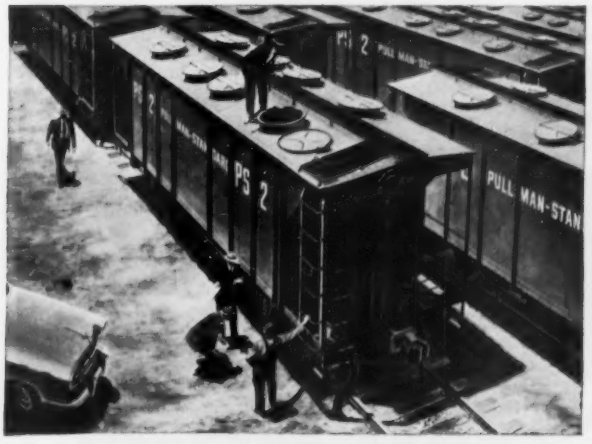
PULLMAN-STANDARD

CAR MANUFACTURING COMPANY

SUBSIDIARY OF PULLMAN INCORPORATED

79 EAST ADAMS STREET, CHICAGO 3, ILLINOIS

BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO, WASHINGTON



THE PS-2 COVERED HOPPER CAR

The PS-2 Covered Hopper Car presents another Pullman-Standard achievement in freight car standardization for dependability and economy.

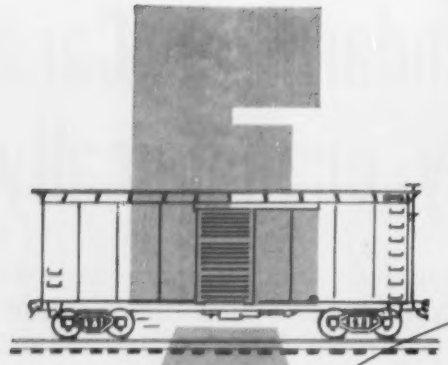
The design is new. It permits the use of the most modern methods of car construction and production including the extensive use of automatic arc welding.

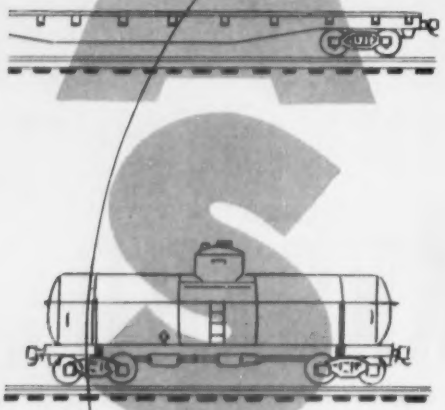
Besides stronger construction, some of the PS-2's features include: improved circular hatches; smooth self-cleaning hoppers; and a sturdier, safer roof.

THE PS-1 BOX CAR

The PS-1 is a good example of the progressing standard which is so important in the successful operation of these cars. Pullman-Standard Research and Development engineers have never stopped testing, proving and improving the standardized PS-1.

They continue to anticipate the railroads' needs for better, more economical freight cars. Under laboratory control, technicians reproduce service hazards and conditions more severe than those actually ever encountered.





BARBER STABILIZED FREIGHT CAR TRUCKS

The principal reason for this time-and-dollar-saving ease-of-assembly is that when the bolster is lifted all springs are free as in an A.A.R. truck.

ONLY THREE ESSENTIAL PARTS PER COLUMN

1—Special Heat-Treated Alloy-Iron friction casting having 35 inches of friction-bearing surface retained in the bolster.

2—Spring-steel wear plate securely bolted or welded to the column.

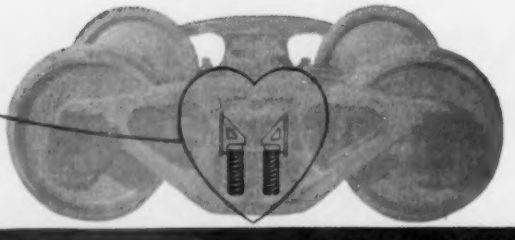
3—Friction-casting supporting side-spring having a minimum ¾" initial compression, removed with the bolster spring.

Barber Side Springs carry part of the load, thus increasing bolster spring capacity and reducing net cost.

Because of the extremely easy ride given by Barber Stabilized Trucks, the possibility of damage to car structure and lading is greatly reduced.

More than 330,000 car sets of Barber Stabilized Trucks have been specified up to this time.

EASY TO ASSEMBLE
EASY TO DISMANTLE
EASY TO SERVICE
MIGHTY EASY RIDING



STANDARD CAR TRUCK COMPANY
332 SOUTH MICHIGAN AVE
CHICAGO, ILLINOIS

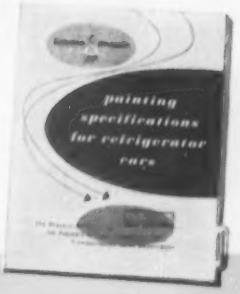
NOW... from start to STENCIL

paint "reefers" in ONE DAY

New, speeded-up schedules now can cut finishing time for refrigerator cars to a single day—up to ⅔ savings in time over previous systems.

Another Sherwin-Williams development in advanced transportation finishes, this new FAST-DRI system gives better build and gloss . . . better resistance to periodic washing . . . longer service life . . . with fewer finish coats.

FAST-DRI systems speed drying for both wood and metal surfaces. For full details ask your Sherwin-Williams Representative or write The Sherwin-Williams Co., Transportation Sales Division, Cleveland 1, Ohio.



NEW BOOK TELLS HOW:

A choice of two finishing systems . . . FAST-DRI and FLASH-DRI® . . . is described in detail in this new Sherwin-Williams brochure, "Painting Specifications for Refrigerator Cars". Ask or write for copy without obligation.

SHERWIN-WILLIAMS

RAILWAY FINISHES

HYATT freight car boxes ...EASIEST to inspect...

★ **Free Lateral** *(better ride, less wear on wheels and truck parts)*

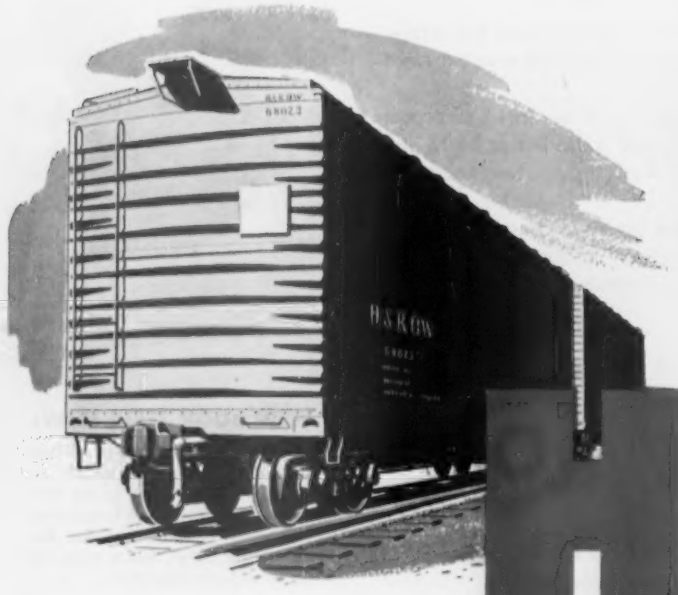
★ **Press Fits are Not Disturbed when Removing Boxes**

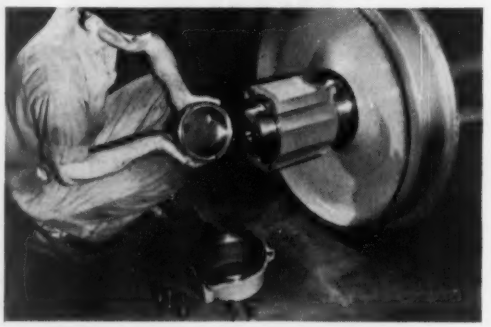
You know all about the immediate benefits of roller bearings for freight cars. They eliminate the hot box problem and safely permit the higher freight speeds demanded by shippers. But, over the *long haul*, additional benefits—provided only by *Hyatts*—become increasingly important. We're talking about Hyatt's *ease of installation and maintenance!*

Installation of Hyatt Boxes is the ultimate in ease and simplicity. The one-piece bearing inner race is heated and shrunk on the axle journal, so that it becomes, for all practical purposes, a permanent part of the journal. Then the journal box, *just as it is received from the factory*, is simply slipped on over the inner race. After bolting a locking cup to the end of the axle, and adding the prescribed amount of lubricant, the box is ready to roll! *No bearing adjustments are necessary!* And, disassembly is equally simple. *Press fits are not disturbed*, either when removing a box or removing a wheel, and because spare axles and wheels need to be fitted with inner races only, *spare parts inventory is substantially reduced.*

Your roller bearing cars will be in service for many, many years, and with each journal box certain to be removed many times for wheel work, truck work and periodic inspection, Hyatt's amazingly simple assembly procedure means real savings—savings that will multiply as the number of Hyatt-equipped cars increases. Add the advantages of Hyatt's "free lateral" design—meaning less wear on truck parts and wheel flanges, and less damage to lading—and you'll easily understand why the big swing is to *"Hyatts for Freight!"*

For further information write for the new Hyatt Freight Car Journal Box Maintenance Manual. Hyatt Bearing Division, General Motors Corporation, Harrison, New Jersey.





3 Locking cup is applied to end of axle. With cover removed from the box, locking cup is bolted to axle-end. Bolts are tightened to a specified torque and wired together.

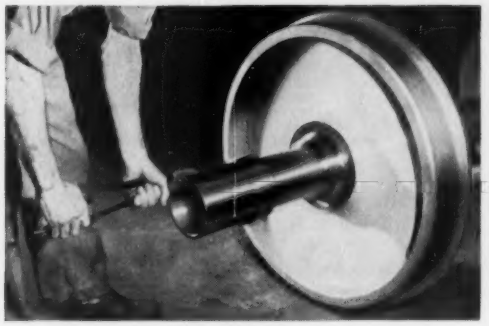
HYATT

STRAIGHT ROLLER BARREL ROLLER TAPER ROLLER

... EASIEST to install
EASIEST to maintain!

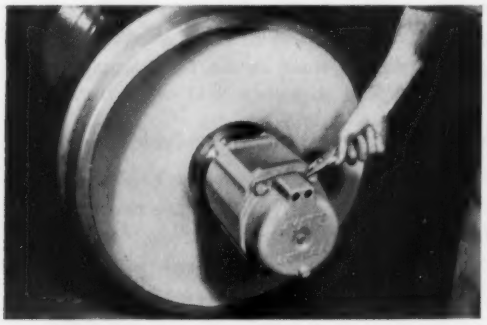
★ One Inner Race ★ Parts Inventory Reduced

★ No Bearing Pre-assembly Adjustment

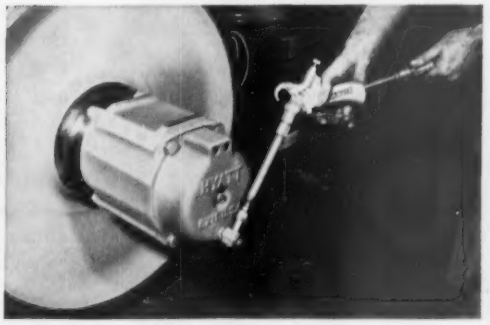


1 One-piece inner race is applied to axle journal. Inner race is heated uniformly to 300°-325°F, slipped on the journal, and shrunk into position. *No spacers or mounting fixtures are required.*

2 Journal box is applied to axle. Hyatt Boxes are ready for application *just as they come from the factory.* Simply remove shipping cover and slip box onto inner race. *There are no pre-assembly adjustments!*



4 Front cover is reapplied. Bolts are tightened and wired together in pairs.



5 Grease is added and the box is ready to roll! Using a grease gun, the prescribed amount of lubricant can be added through fittings in cover.

ROLLER BEARING JOURNAL BOXES

"All other hauling methods more expensive" report Blythe Brothers

14 D Tournapulls handle long hauls "cheaper than trucks" on railroad job

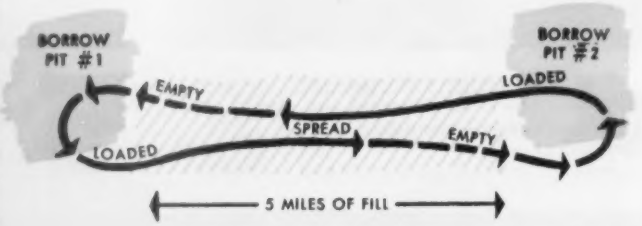
BLYTHE BROTHERS COMPANY, Charlotte, North Carolina, contracted with the Marine Yards and Docks Division of the U.S. Navy to build 28.85 miles of single track railroad for a southeastern training base. Of the million cubic yards involved in the project, most difficult phase was construction of a 250,000-yd. fill over 5 miles of swamp. Fill, mostly sand and sandy loam, was made 20′ wide on top, averaging 5′ in depth, with a 40′ base.

Blythe Brothers studied and field-tested many types of equipment before beginning work on this section. Trucks were tried, but didn't work out because they couldn't get through the soft footing without constant tractor assistance. Hauls were too long for crawlers. Fills were too narrow for most self-propelled scrapers. Then Blythe Brothers tried D Tournapulls. These did the trick. "D's" had the ability to pull through the soft fill and turn on its 20-ft. width. Top haul speed of 28 mph made them economical even on hauls of 2½ miles or more. So, the Company rented 6 "D's" to add to their own fleet of 8 . . . assigned all swamp work to the 14 Tournapulls and several draglines for sidecasting.

Two major reasons for selecting D Tournapulls were their ability to "go-anywhere" in soft, spongy footing, and make high-speed turns on narrow fills. Most units were driven to job under own power from cities 60 to 70 miles away.

2 loads hourly on 10-mile cycle

With only 2′ to 3′ to the water table in the borrow pits, and despite rain nearly every day, the rubber-tired units



At start of project, draglines mucked out 2½′ on both sides of fill, wasting it along sides. The "D's" then started at one end of embankment area, placed 3′ of sand lift along entire 5-mile stretch. "Figure-8" operation was then started with units hauling material from borrow pits at both ends of fill.

FOR LOWEST-NET-COST-PER-YARD

LeT

consistently loaded 6.5 pay yards of root-laced dead sand. Working a "figure-8" pattern totaling 10 miles, each "D" delivered 2 loads per 50-minute hour. Haul and return speed averaged 12 mph.

Says Project Manager George F. Thibodeau, "Other hauling methods were studied, including trucks, and actual field trails were made. All were found to be more expensive than the D Roadster operation."

Excellent planning and supervision

Efficiency was increased, field engineers report, by Blythe Brothers' excellent initial planning, plus a rigidly-followed maintenance program. Despite adverse conditions, the haul road was maintained and sprinkled constantly. Every detail of the job showed alert supervision to help equipment deliver maximum output.

Ask your LeTourneau-Westinghouse Distributor for literature on how to increase *your* job efficiency. He will be glad to help you, any time. He will also demonstrate Tournapulls on your job. Make a test. You'll find the 7-yd. 122 hp "D's" have ample capacity to work profitably in pusher fleets. They also have the self-loading ability to economically handle scattered finishing and other one-man odd jobs. Every dirtmoving job needs at least one "D" as a "handy man".

Push-loaded, Tournapull with 1-ft. sideboards, gets 6½ yds. of dead sand and sandy loam in less than 45 seconds. The "D's" worked a "figure-8" cycle, loading at both ends of the 5-mile fill.

Spread, taking only 15 seconds, is made on the run at 20 to 25 mph. According to Blythe Brothers, the "D's" have delivered 3 loads per hour under best conditions over the 10-mile, 2-load cycle . . . averaging 18 mph on haul and return.

Tournapull—Trademark Reg. U.S. Pat. Off. DP-528-RR

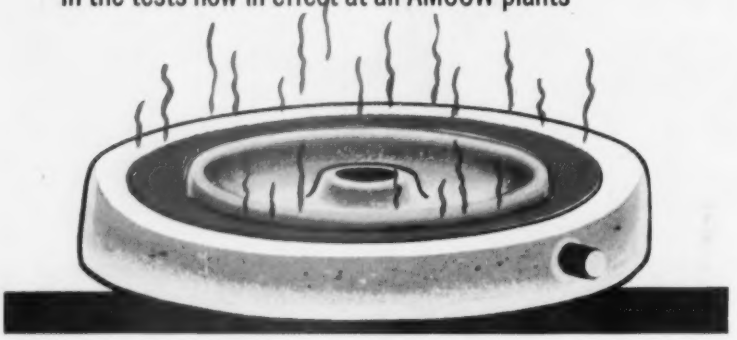
LeTourneau-Westinghouse Company

PEORIA, ILLINOIS

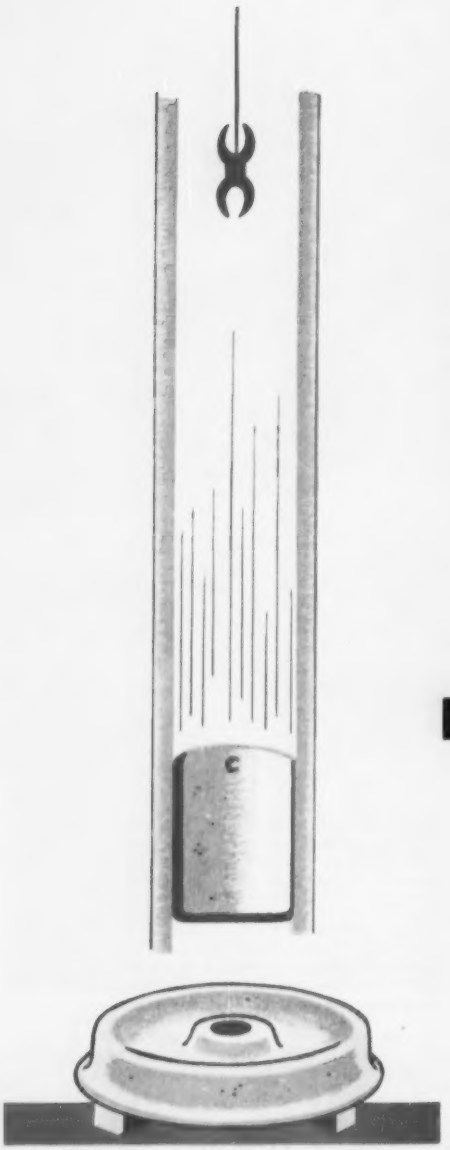
A Subsidiary of Westinghouse Air Brake Company

tougher tests for a tougher wheel

the new AMCCW wheel proves it can take it in the tests now in effect at all AMCCW plants



In this test, molten metal is poured around the tread of a cold wheel, setting up thermal strains similar to those encountered in prolonged braking. The slightest evidence of cracking disqualifies a wheel. Length of test time now increased 25%.



Here a 250-pound tup is dropped on the hub of a wheel. Number of drops now increased 25%. Even so, it is a mighty rare occasion when the new AMCCW chilled car wheel breaks under this severe test.

All AMCCW wheels are now being inspected on the basis of more severe test specifications, voluntarily adopted by the Association in February, 1953.

These same specifications have been adopted by the AAR, and are now official.

The tougher tests are a logical development of continuous improvement of AMCCW manufacturing methods and AMCCW wheels, resulting over the years in dramatic improvement in wheel performance... from 89,000,000 car miles per wheel failure in the five-year period 1938-42 to 128,600,000 car miles per wheel failure in the period of 1948-52!

Tougher tests like these assure continued advances in the years ahead.

AMCCW

In good supply
Available locally
Short-haul delivery
Reduced inventory
Low first cost
Low exchange cost
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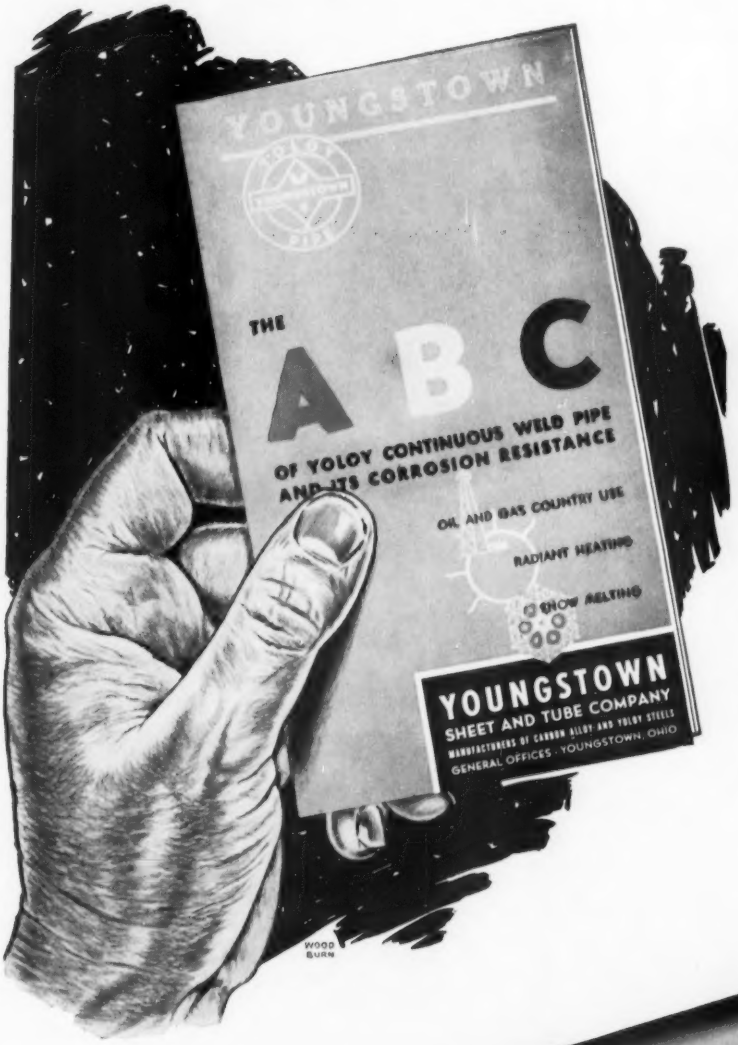
This DATA *may solve* YOUR *piping problem*



● Here is the up-to-date story of Yoloy Continuous Weld Pipe—a remarkable low alloy steel whose nickel-copper content gives it unique ability to withstand corrosion, abrasion and shock. These outstanding advantages combined with high strength, ductility and weldability make Yoloy Pipe an excellent selection.

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Alco All-Purpose Locomotives Lead the Way to Higher Earnings Through Greater Versatility

Better utilization—which demands greater versatility—is the modern means to greater railroad earnings . . . and Alco all-purpose locomotives *are your most versatile form of motive power.*

Combining the exceptional visibility of standard Alco switching units with high tractive-effort capacity for hauling heavy trains and full horsepower at high speeds, Alco all-purpose locomotives *are unmatched for versatility.*

Alco all-purpose locomotives *haul more tons per train* on your fastest freight and passenger runs. They handle *all* of your transfer, branch-line, and yard-switching assignments, and thus allow you to obtain up to 95 per cent utilization.

Versatility Means Lower Costs

Alco all-purpose units also enable you to make drastic cuts in your first costs, operating costs, and maintenance costs.

For example: the Alco 1600-hp 4-motor unit handled essentially the same main-line service as a standard 1600-hp road freight unit—*at a first cost saving of more than $10,000.*

The greater pulling power of Alco all-purpose locomotives—at *all* speeds—means more tons per train on your toughest jobs. And "more tons per train" means lower fuel costs, lower repair costs, lower lubrication costs, lower crew costs, and lower investment—per ton hauled.

Today's all-purpose locomotives are direct descendants of the original "road switcher" design introduced by Alco in 1940—a new concept in railroad motive power that has since become standard throughout the country—imitated but never duplicated. Alco all-purpose units are engineered by *specialists to give you better motive power for greater earning power.*

Special Features

Alco 1600-hp all-purpose locomotives give you the following high-performance features:

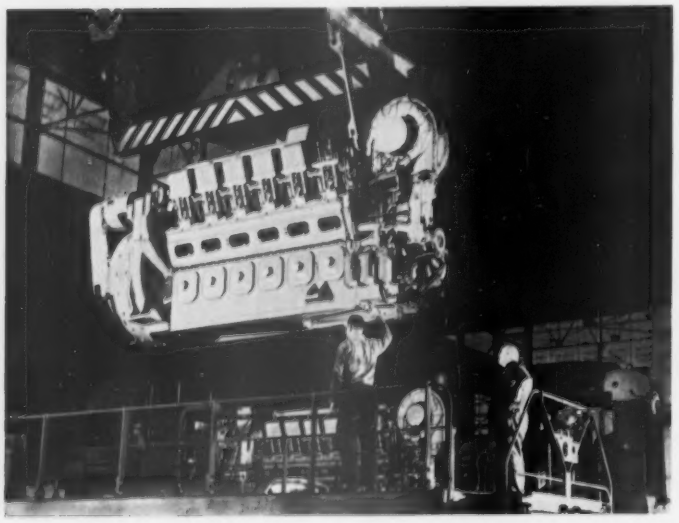
★ Full rated horsepower at high speed and at altitudes up to 8,000 ft—for faster schedules, heavier payloads.

★ 4-cycle, turbocharged engine—for greater fuel economy, better scavenging, better cooling of valves and valve seats.

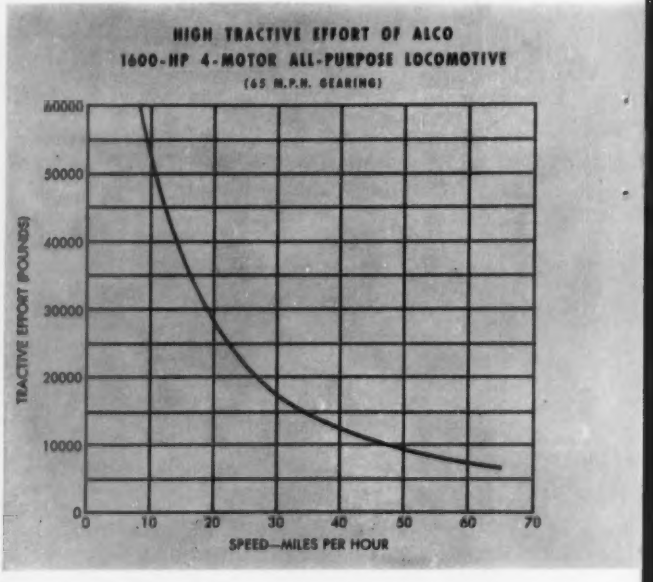
★ Maximum speeds up to 92 mph.

★ High-capacity, automatically controlled dynamic braking – where required – for greater speed control on flat terrain, greater holding power on grades.

★ Superior traction motors provide highest continuous tractive effort . . . 53,000 lb for 4-motor, 79,500 lb for 6-motor – with 65-mph gearing.



Dependable Alco 4-cycle engine is readily accessible from both top and sides, and can easily be removed for major overhaul.



Alco

AMERICAN

Two of the Reading's fleet of 67 Alco 1600-hp all-purpose locomotives.

How Alco All-Purpose Locomotives Help Boost Reading's Operating Efficiency

Increased dieselization of motive power during 1952 and 1953 has been the vital factor in saving the Reading Company approximately 20 cents per thousand gross ton miles—or about $3,000,000 annually—represented by a reduction in operating ratio from 79.33 to 76.52 per cent.

"An important reason for this increased efficiency," says Mr. J. A. Fisher, Reading president, "was the high productivity of our all-purpose locomotives."

"As the Reading moves forward with its dieselization program," Mr. Fisher adds, "we look forward to greater efficiencies and lower operating ratios from our all-purpose locomotives."

Investigate soon how Alco all-purpose locomotives can bring proportionate savings to your own road.

The first step: contact your nearest Alco locomotive representative.

LOCOMOTIVE COMPANY

Sales and Service Offices in New York, Chicago, Cleveland, St. Louis, San Francisco, and Washington, D. C.

TAKING THE HEAT OFF....

Bower-Franklin journal boxes, equipped with dependable Bower straight roller bearings, are ready to help you carry more freight — at greater speeds — with no danger of hot boxes.

These high-quality bearings have already *proved* themselves in numerous other types of heavy-duty equipment — steel rolling mills, heavy trucks, earthmovers, cranes, shovels, and railroad generator-drive units, to mention but a few.

Sales and application engineering for the Bower-Franklin journal boxes are being handled by the Franklin Balmar Corporation. Additional information will be furnished on request.

FRANKLIN BALMAR CORPORATION

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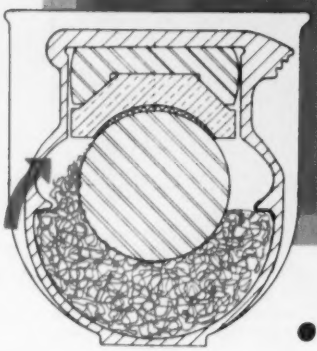
WOODBERRY, BALTIMORE 11, MARYLAND
CHICAGO OFFICE: 5001 North Wolcott Ave., Chicago 40

...a HOT BOX at temperature –0°?



It can and does happen. As the car is put in motion, waste, frozen to the journal, works upward under the brasses. A *hot-box*, when this happens, is the inevitable consequence.

...*but* waste stays put when packed with

PLYPAK

WASTE CONTAINER & RETAINER

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In tests conducted by railroad test engineers in railroad test laboratories, Plypak, even at temperatures of –45°, was shown to hold waste firmly in place. No climb! no grab! no hot-boxes!

Whatever the temperature, no matter how adverse the operating conditions . . . emergency braking, high-speed classification yard impacts, or the pull-outs and run-ins of regular service . . . PLYPAK contributes to proper journal lubrication.

Although only recently made available, more than 80,000 PLYPAK waste containers and retainers are already in service. Their record to date is a substantial reduction in the incidence of hot-boxes resulting from lubrication failures. Your inquiry is invited.

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Electro-Motive is the only Diesel Locomotive parts manufacturer with this "One Source—One Responsibility" system. With so many GM Locomotives in service today, it's saving thousands of dollars for railroads. Nine Parts Warehouses cover key railroad centers across the nation with complete stocks of genuine EMD parts. A tenth Warehouse is currently being built.

Less paper work is just one of the many reasons for buying only genuine Electro-Motive parts. When you do, you also get:

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One Low Price Regardless of Volume—Buy only what you need.

Scientific Packaging—Protects against damage in shipping and deterioration in storage.

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La Grange, Illinois • Home of the Diesel Locomotive

EM

Current Publications

PERIODICAL ARTICLES

THE FLYING A. December 1953. Aeroquip Corporation, Jackson, Mich. Free.

This issue of Aeroquip's company magazine is devoted to the railroad industry. A series of photographs depicts progress in railroading; Aeroquip's interest in the railroad industry is outlined briefly; and E. H. O'Keefe, superintendent of the Michigan division of the New York Central, contributes a short article on railroading in Jackson.

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THE FAIRER SIDE OF RAILROADING, by John T. Cunningham. Wheels, January-February 1954, pp. 1-7. American Car & Foundry Co., Public Relations dept., 30 Church St., New York 8.

"Few of the millions of people who ride America's railroads have any conception of the strategic role played by women in keeping the wheels rolling . . . Women now do just about everything, from running the entire railway to working as laborers on coal and ore docks," says Mr. Cunningham. In recounting unusual jobs held by women, he cites the American Council of Railroad Women (a group of 64 of the country's top women railroaders), whose roster of members includes a retired research engineer; a draftsman specializing in interior design finishes and fabrics; a supervisor of passenger train service; a superintendent of dining car service; and editors and associate editors of railway employee magazines. Another organization is the National Association of Railway Business Women, composed of 6,500 women members organized into 35 chapters all over the country. At present there are 65,000 women working on railroads.

•

COMPUTERS IN BUSINESS, by Lawrence P. Lessing. Scientific American, January 1954, pp. 21-25. Scientific American, Inc., 2 W. 45th st., New York 36. Single copies, 50 cents.

An article in layman's language which sketches some applications of "Giant Brains" (electronic computers) to actual business operations, plus brief mention of tasks which will be assigned to computers in 1954-55. Some jobs which are being—or will be—performed by computers are inventory control, manpower forecasting, cost distribution, payroll preparation, materials scheduling, billing, and preparation of dividend checks.

The author mentions, but does not give details, on a machine which, upon receipt of personal data on college freshmen, forecasts, with an accuracy said to be greater than 95 per cent, which will fail the college course. He suggests that this technique could be applied in selecting employees.

There is a short discussion of devices and techniques which have led to about 98 per cent reliability in the big computer. This, the author states, is at least as good as that of punch cards and other well-known equipment.

The author emphasizes two important factors which have been discussed by the Railway Systems & Procedures Association:

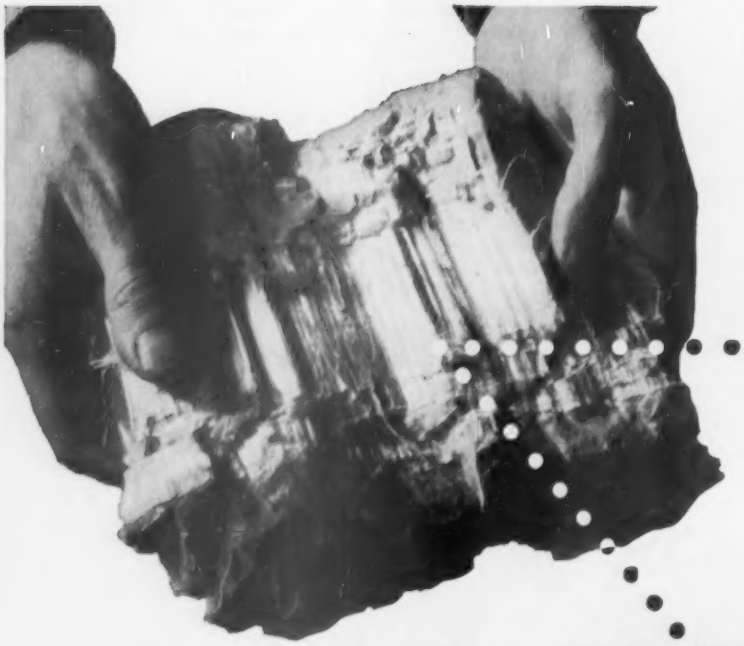
(1) Adapting the electronic computer to handling paperwork requires a real "get ready" period. In one case, the author says, this period required eight man-years of study; and

(2) Computers promise not only clerical savings but, more importantly, better managerial efficiency through better figures at earlier dates.

•

STATISTICAL INTERPRETATION OF TEST CHECKS, by H. F. Stettler. Journal of Accountancy, January 1954, pp. 49-57. American Institute of Accounting, 270 Madison ave., New York 16. Single copies, 75 cents.

Statistical methods described in this article are based on the theory of probability. In effect, what the author does is to set up a table showing, by size of test check and number of er-



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Because they are made of the mineral, asbestos, the felts of a Johns-Manville Flexstone Built-Up Roof assure lasting service and protection. They will not support combustion. They effectively resist the drying out action of the sun . . . won't rot, are weatherproof and need no periodic coating.

Flexstone Built-Up Roofs are smooth-surfaced . . . permit thorough drainage . . . make damage easy to locate and repair. These superior advantages are also provided by the J-M Flexstone Special Built-Up Roof . . . developed especially for dead-level decks.

For complete information about Flexstone Roofs and the J-M Asbestile* Flashing System that provides thorough water tightness and effective treatment for critical roof areas, send for folder BU-51A. Write Johns-Manville, Box 158, New York 16, N.Y. In Canada, write 199 Bay St., Toronto 1, Ontario.

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rors disclosed, the number of times an auditor will be justified in deciding that the error rate is thus and so. This information would seem to have some value in paperwork quality control.

BOOKS

RAILROAD WAGES AND LABOR RELATIONS, 1900-1952; AN HISTORICAL SURVEY AND SUMMARY OF RESULTS, by Harry E. Jones. 375 pages. Harry E. Jones, Room 5710, Grand Central Terminal, New York 17. Free.

This book presents a survey of labor relations in the railroad industry during the past 52 years and an analysis of the results of negotiations and legislation affecting wages and working conditions as they concern the employee, the industry and the security holder. Following an introductory section, which summarizes the 1952 wage status of various classes of railroad employees as compared with their situation in 1922, is a concise but complete account of the history of railroad labor relations in this century. The study traces the development of collective bargaining, wage movements, controversies over working rules and practices, and legislation establishing machinery for settlement of disputes. The results of these developments are then analyzed in an extensive series of useful tables, based on Interstate Commerce Commission reports. The author is chairman of the executive committee of the Bureau of Information of the Eastern Railways, and for many years has been associated with all concerted movements for changes in wage rates and working conditions involving employees of Eastern railroads.

•

RAILROADS OF NEW YORK; A STUDY OF GOVERNMENT AID, 1826-1875, by Harry H. Pierce. 208 pages, maps, charts, tables. Harvard University Press, Cambridge, Mass. $3.

The author tells when, why, how, in what amount, and with what success New York state and its municipalities contributed to development of the railroad system of the state. He examined private and public sources of information, including books of railroad companies and records of hundreds of towns and villages. Maps and tables enable the reader to determine at a glance the location of any publicly aided line and the record of investment of any locality in the state.

•

TRANSPORTATION FOR MANAGEMENT, by Frank M. Cushman. 468 pages. Prentice-Hall, Inc., 70 Fifth ave., New York 11. $5.95.

The author has prepared a text to assist in training individuals to use and evaluate transportation facilities to the greatest advantage. Feeling that neither the economic and historical, nor the "handbook" type of approach, are adequate, he has "used an amalgamation of both approaches." In his preface Professor Cushman says the book "covers both an adequate degree of policy-making aspects of transportation and an adequate degree of the practical application, thereby bringing forth a combination of the two that reflects the more desirable characteristics of each. Though admittedly the main objective of this volume is to develop managerial ability on the higher levels, it would not wholly and best serve its purpose as a training aid to industrial proficiency if it did not also provide for the accomplishment of a reasonably high degree of practical application. It is therefore designed to meet both sets of specifications."

After discussing the role of transportation in the American economy, the transportation system of the United States, service characteristics of carriers, and regulation of transportation, he discusses the transportation contract, significance and practical application of freight classification, carrier rates as prices for transportation service, the rate making process, freight claims, insurance, warehousing, and selling and purchasing transportation.

Freight Operating Statistics of Large Railways — Selected Items

Region, Road and Year		Miles of road operated	Locomotive Miles: Train miles	Locomotive Miles: Principal and helper	Locomotive Miles: Light	Car Miles: Loaded (thousands)	Car Miles: Per cent loaded	Ton-miles (thousands): Gross excl. locos. & tenders	Ton-miles (thousands): Net rev. and non-rev.	Road-locos. on line: Serviceable: Unstored	Road-locos. on line: Serviceable: Stored	Road-locos. on line: B.O.	Road-locos. on line: Per cent B.O.
New Eng. Region	Boston & Maine	1953	1,668	260,191	266,065	10,188	10,065	68.6	631,028	259,977	75	2	4	4.9
		1952	1,689	261,935	270,087	13,487	10,508	69.8	654,393	274,053	79	11	10	10.0
	N. Y., N. H. & Hfd.	1953	1,749	314,766	315,025	18,168	12,460	68.8	765,434	322,711	92	..	6	6.1
		1952	1,765	312,635	312,973	17,512	12,608	71.1	767,223	335,558	100	..	4	3.8
Great Lakes Region	Delaware & Hudson	1953	793	211,096	217,148	11,752	10,383	71.9	709,918	379,244	45	..	3	6.3
		1952	793	221,141	229,367	11,974	10,886	74.1	743,034	403,367	38	55	19	17.0
	Del., Lack. & Western	1953	962	278,145	294,146	21,972	12,661	69.7	818,312	365,531	67	..	..	..
		1952	962	283,932	303,622	25,931	13,587	71.9	873,932	404,591	72	4	2	2.6
	Erie	1953	2,235	643,026	647,791	29,159	37,115	70.1	2,246,926	893,278	165	..	4	2.4
		1952	2,242	668,017	675,360	36,091	39,124	69.5	2,424,439	996,020	176	..	1	.6
	Grand Trunk Western	1953	952	261,654	270,763	1,866	8,536	61.8	586,701	239,256	63	7	10	12.5
		1952	952	264,011	270,656	2,274	9,190	63.1	624,424	259,349	66	..	8	10.8
	Lehigh Valley	1953	1,151	235,238	240,022	8,564	11,677	65.6	800,357	366,109	33	..	1	2.9
		1952	1,206	246,596	251,812	11,422	12,394	70.4	832,742	403,224	35	..	..	..
	New York Central	1953	10,667	2,713,654	2,776,803	105,406	109,644	61.4	7,868,075	3,497,876	734	42	168	17.8
		1952	10,668	2,804,559	2,890,490	121,754	110,844	62.2	7,860,217	3,507,655	798	84	203	18.7
	New York, Chic. & St. L.	1953	2,161	797,022	825,383	8,180	31,771	66.7	2,183,357	985,205	211	12	33	12.9
		1952	2,160	796,557	820,018	8,178	32,404	68.1	2,215,535	1,002,245	198	1	49	19.8
	Pitts. & Lake Erie	1953	221	78,300	81,476	.....	3,532	66.4	301,479	184,501	21	7	6	17.6
		1952	221	75,500	78,414	17	3,602	70.5	299,462	187,658	38	5	9	17.3
	Wabash	1953	2,381	593,292	594,730	7,505	26,171	67.0	1,674,266	663,754	101	19	24	16.7
		1952	2,381	600,398	605,550	9,049	26,828	70.1	1,705,446	718,618	115	23	40	22.5
Central Eastern Region	Baltimore & Ohio	1953	6,081	1,675,513	1,868,414	195,444	70,739	64.0	5,285,176	2,592,645	515	23	104	16.2
		1952	6,082	1,642,999	1,841,572	170,135	67,850	64.1	4,994,573	2,428,501	543	40	151	20.6
	Bessemer & Lake Erie	1953	209	60,206	64,900	337	3,503	63.0	403,534	263,028	17	14	..	..
		1952	212	66,149	71,528	418	3,450	58.8	408,208	263,287	19	23	10	19.2
	Central of New Jersey	1953	615	133,291	138,477	10,174	5,345	68.0	390,920	206,394	69	7	5	6.2
		1952	618	135,963	141,592	13,376	5,487	67.8	401,019	210,874	72	2	7	8.6
	Chicago & Eastern Ill.	1953	818	123,625	123,625	2,602	5,231	68.2	353,243	173,801	28	..	2	6.7
		1952	868	134,025	134,025	3,503	5,641	67.2	388,167	191,918	29	..	2	6.5
	Elgin, Joliet & Eastern	1953	236	99,499	100,227	....	3,212	63.9	255,051	137,373	37	4	..	..
		1952	236	98,954	99,913	224	3,614	64.9	288,139	156,745	42	..	..	..
	Pennsylvania System	1953	9,939	3,166,277	3,388,921	300,528	134,253	65.4	9,619,620	4,642,416	1,046	172	306	20.1
		1952	9,961	3,229,500	3,464,345	326,919	141,692	67.7	9,786,759	4,793,254	1,019	61	361	25.1
	Reading	1953	1,309	362,608	369,520	17,247	14,229	64.9	1,095,513	579,547	170	24	25	11.4
		1952	1,318	359,148	367,583	22,750	14,194	65.1	1,117,983	593,182	165	16	20	10.0
	Western Maryland	1953	873	183,646	202,298	14,855	7,077	64.0	585,087	330,953	84	28	5	4.3
		1952	878	176,979	205,601	24,238	6,004	63.5	488,088	270,144	123	9	10	7.0
Pocahontas Region	Chesapeake & Ohio	1953	5,034	1,318,707	1,347,150	35,336	59,491	58.3	5,045,917	2,801,277	416	49	135	22.5
		1952	5,036	1,170,079	1,200,977	36,600	51,120	57.3	4,270,227	2,293,422	442	67	186	26.8
	Norfolk & Western	1953	2,113	701,448	741,405	51,141	34,062	59.1	3,062,054	1,659,566	229	27	18	6.6
		1952	2,113	636,423	671,775	44,792	28,977	58.9	2,467,695	1,287,882	221	38	14	5.1
Southern Region	Atlantic Coast Line	1953	5,367	739,478	739,478	7,734	23,470	61.6	1,670,614	774,447	241	..	6	2.4
		1952	5,460	787,952	787,985	8,548	24,553	61.7	1,763,256	827,573	279	16	27	8.4
	Central of Georgia	1953	1,754	204,066	204,120	2,323	7,669	68.2	516,441	240,067	70	..	1	1.4
		1952	1,754	206,604	212,752	2,999	7,881	69.4	521,642	245,631	85	22	..	..
	Gulf, Mobile & Ohio	1953	2,718	325,711	325,711	244	17,554	69.4	1,180,012	566,117	87	..	2	2.2
		1952	2,718	337,161	337,161	425	18,484	71.7	1,232,834	605,567	86	..	3	3.4
	Illinois Central	1953	6,537	1,544,094	1,549,055	53,769	57,393	62.3	4,187,185	1,926,919	524	47	75	11.6
		1952	6,539	1,649,765	1,655,073	56,401	58,046	63.6	4,192,618	1,951,289	554	11	79	12.3
	Louisville & Nashville	1953	4,728	1,001,223	1,051,360	21,877	36,323	63.1	2,692,516	1,367,577	239	51	35	10.8
		1952	4,729	968,988	1,017,838	23,224	34,385	63.1	2,490,915	1,232,014	250	67	48	13.2
	Nash., Chatt. & St. Louis	1953	1,032	184,796	188,450	4,007	6,243	67.9	416,231	192,550	51	..	1	1.9
		1952	1,032	206,488	209,560	3,077	6,747	73.4	432,101	207,095	53	..	..	..
	Seaboard Air Line	1953	4,068	570,427	570,427	658	23,046	63.9	1,627,027	742,660	135	7	10	6.6
		1952	4,135	606,850	606,850	1,318	23,543	64.4	1,658,042	764,442	150	72	5	2.2
	Southern	1953	6,253	1,015,251	1,015,301	12,694	43,721	68.8	2,815,852	1,290,654	235	4	4	1.6
		1952	6,264	1,079,594	1,079,636	12,781	42,397	71.5	2,649,321	1,217,378	274	46	25	7.2
Northwestern Region	Chicago & North Western	1953	7,849	822,619	825,798	14,308	36,206	64.3	2,492,383	1,122,386	210	38	62	20.0
		1952	7,872	982,723	992,021	20,167	39,953	67.0	2,767,084	1,238,543	322	6	75	18.6
	Chicago Great Western	1953	1,435	143,056	143,115	228	9,210	64.7	599,535	274,398	32	..	1	3.0
		1952	1,441	154,379	154,851	2,165	9,690	72.7	639,801	306,321	33	..	2	5.7
	Chic., Milw., St. P. & Pac.	1953	10,661	1,169,102	1,200,490	38,457	50,620	66.0	3,396,371	1,519,489	363	17	44	10.4
		1952	10,660	1,266,374	1,302,248	54,105	53,711	67.4	3,521,232	1,588,541	407	46	71	13.5
	Chic., St. P., Minn. & Omaha	1953	1,606	168,008	169,953	4,597	5,947	70.4	405,690	185,722	57	16	20	21.5
		1952	1,606	202,064	207,394	9,885	6,397	72.3	425,336	200,845	70	..	23	24.7
	Duluth, Missabe & Iron Range	1953	568	179,146	180,137	1,387	8,155	50.8	821,925	490,560	65	..	7	9.7
		1952	569	201,281	202,753	2,109	8,903	49.9	905,793	527,938	81	..	1	1.2
	Great Northern	1953	8,291	1,354,490	1,357,926	40,404	54,944	63.4	4,162,930	2,029,023	320	96	43	9.4
		1952	8,301	1,392,997	1,397,432	51,360	57,077	65.2	4,175,849	2,037,135	362	83	64	12.6
	Minneap., St. P. & S. S. M.	1953	4,172	410,898	414,363	4,608	14,031	69.1	909,880	434,059	108	..	9	7.7
		1952	4,172	449,032	455,240	4,987	15,765	69.1	1,048,436	514,182	115	..	10	8.0
	Northern Pacific	1953	6,582	916,995	947,652	32,657	38,755	69.7	2,632,049	1,223,926	324	8	69	17.2
		1952	6,586	912,836	942,292	42,760	38,403	72.1	2,551,018	1,205,117	326	12	66	16.3
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1953	13,095	2,634,377	2,677,948	75,326	115,489	65.2	7,618,489	2,886,925	544	128	43	6.0
		1952	13,072	2,790,823	2,921,960	115,655	122,666	66.8	8,036,839	3,109,519	630	48	106	13.5
	Chic., Burl. & Quincy	1953	8,833	1,400,683	1,417,900	47,990	58,943	66.7	3,887,211	1,725,571	323	14	42	11.1
		1952	8,832	1,390,322	1,414,036	53,543	59,863	68.2	3,916,326	1,764,321	353	3	125	26.0
	Chic., Rock I. & Pac.	1953	7,866	913,253	911,184	6,848	35,992	66.7	2,457,956	1,084,094	175	2	6	3.3
		1952	7,902	1,004,573	1,002,392	7,472	40,611	65.8	2,826,531	1,227,157	185	27	29	12.0
	Denver & R. G. Wn.	1953	2,313	385,040	419,276	50,298	18,139	71.3	1,222,776	578,338	92	41	27	16.9
		1952	2,333	429,548	469,268	53,548	19,344	73.6	1,276,274	596,288	117	13	29	18.2
	Southern Pacific	1953	8,065	2,507,192	2,437,855	290,925	103,674	64.2	7,103,117	2,888,585	659	60	152	17.5
		1952	8,058	2,523,148	2,665,188	305,204	112,246	64.5	7,678,596	3,119,781	721	3	155	17.6
	Union Pacific	1953	9,822	3,097,301	3,189,556	186,184	123,044	63.6	8,598,724	3,592,162	664	44	138	16.3
		1952	9,834	3,251,194	3,376,358	224,385	131,440	66.9	8,673,713	3,589,375	707	7	102	12.5
	Western Pacific	1953	1,190	268,102	276,735	13,062	13,081	74.2	809,562	370,777	40	6	9	16.4
		1952	1,190	294,201	299,435	17,532	14,054	73.1	892,064	412,214	46	..	8	14.8
Southwestern Region	International-Gt. Northern*	1953	1,104	156,391	156,391	....	5,713	66.0	411,794	193,940	49	..	1	2.0
		1952	1,104	179,684	179,684	....	6,880	68.6	493,186	228,027	49	9	4	6.5
	Kansas City Southern	1953	886	170,392	170,385	67	9,030	66.2	638,085	295,895	25	..	1	3.8
		1952	886	191,594	191,594	188	10,265	69.2	708,659	337,682	26	2	5	15.2
	Mo.-Kans.-Texas Lines	1953	3,230	392,035	392,035	4,347	15,752	66.0	1,017,708	428,562	87	..	..	..
		1952	2,230	419,440	419,493	4,592	16,492	64.4	1,075,088	458,548	88	8	8	7.7
	Missouri Pacific*	1953	6,917	1,216,596	1,219,265	14,306	49,970	67.4	3,356,452	1,515,552	283	40	63	16.3
		1952	6,932	1,344,334	1,350,710	19,089	54,409	69.5	3,593,045	1,640,675	313	5	59	15.2
	Texas & Pacific	1953	1,831	326,313	326,313	4,773	14,279	64.6	999,013	394,353	61	..	..	..
		1952	1,832	361,489	361,489	3,354	15,199	64.7	1,051,146	418,563	63	7	6	7.9
	St. Louis-San Francisco	1953	4,564	657,520	657,520	6,311	25,287	64.1	1,732,048	761,996	188	..	5	2.6
		1952	4,567	684,936	685,029	6,577	26,442	63.3	1,818,670	794,177	187	15	22	9.8
	St. Louis Southw. Lines	1953	1,555	312,841	312,933	4,191	14,619	73.2	893,981	399,622	59	21	2	2.4
		1952	1,562	355,239	355,303	4,873	15,665	72.7	948,520	424,002	57	14	12	14.5
	Texas & New Orleans	1953	4,279	756,035	756,035	15,584	27,780	62.8	1,934,217	840,797	188	..	37	16.4
		1952	4,280	826,240	829,000	24,287	29,828	65.7	2,038,046	908,446	213	..	25	10.5

For the Month of October 1953 Compared with October 1952

	Region, Road and Year		Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos. and tenders	G.t.m.per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng. Region	Boston & Maine	1953	1,745	7,916	9,661	1.6	39,471	2,429	1,001	25.8	847	47.8	5,028	16.3	123.2
		1952	1,207	8,640	9,847	2.9	40,542	2,502	1,048	26.1	908	49.9	5,234	16.2	100.1
	N. Y., N. H. & Htfd.	1953	2,239	14,289	16,528	2.2	39,804	2,432	1,025	25.9	657	35.7	5,952	16.4	131.1
		1952	929	15,343	16,272	2.0	36,442	2,454	1,073	26.6	654	34.6	6,133	14.8	118.4
Great Lakes Region	Delaware & Hudson	1953	4,880	4,986	9,866	6.6	63,505	3,380	1,806	36.5	1,264	48.1	15,427	18.9	164.0
		1952	3,540	5,576	9,116	3.4	65,907	3,377	1,833	37.1	1,352	49.3	16,408	19.6	67.3
	Del., Lack. & Western	1953	6,456	10,625	17,081	3.9	49,943	2,999	1,340	28.9	710	35.3	12,257	17.0	174.4
		1952	3,404	10,461	13,865	5.0	50,085	3,115	1,442	29.8	906	42.3	13,567	16.3	147.3
	Erie	1953	7,989	19,599	27,588	3.4	65,946	3,524	1,401	24.1	1,054	62.5	12,893	18.9	142.0
		1952	7,362	22,231	29,593	3.1	66,725	3,668	1,507	25.5	1,089	61.5	14,331	18.4	137.5
	Grand Trunk Western	1953	3,589	8,207	11,796	5.2	48,067	2,251	918	28.0	651	37.6	8,107	21.4	120.4
		1952	3,238	9,235	12,473	4.6	46,495	2,385	991	28.2	649	36.4	8,788	19.7	131.7
	Lehigh Valley	1953	6,947	9,881	16,828	4.2	65,202	3,445	1,576	31.4	718	34.9	10,261	19.2	252.9
		1952	2,767	10,850	13,617	4.3	66,064	3,438	1,665	32.5	993	43.4	10,785	19.6	258.3
	New York Central	1953	68,553	95,792	164,345	9.8	49,163	2,939	1,307	31.9	689	35.2	10,578	17.0	112.9
		1952	57,543	105,449	162,992	8.3	46,295	2,839	1,267	31.6	696	35.4	10,607	16.5	100.2
	New York, Chic. & St. L.	1953	7,327	18,275	25,602	5.5	49,618	2,785	1,257	31.0	1,254	60.6	14,707	18.1	114.3
		1952	5,501	20,499	26,000	5.3	48,965	2,827	1,279	30.9	1,252	59.4	14,968	17.6	119.0
	Pitts. & Lake Erie	1953	3,588	9,246	12,834	5.4	59,009	3,856	2,360	52.2	466	13.4	26,931	15.3	85.0
		1952	2,339	11,486	13,825	3.6	57,957	3,976	2,491	52.1	440	12.0	27,391	14.6	53.0
	Wabash	1953	8,058	12,603	20,661	8.6	63,460	2,845	1,128	25.4	1,061	62.4	8,993	22.5	144.3
		1952	6,720	13,779	20,499	6.9	59,581	2,865	1,207	26.8	1,141	60.7	9,736	21.0	118.8
Central Eastern Region	Baltimore & Ohio	1953	52,905	48,831	101,736	4.8	47,367	3,201	1,570	36.7	829	35.3	13,753	15.0	111.3
		1952	52,680	42,736	95,416	7.5	44,071	3,076	1,495	35.8	829	36.1	12,880	14.5	91.2
	Bessemer & Lake Erie	1953	6,116	2,297	8,413	9.2	101,136	6,851	4,466	75.1	1,101	23.3	40,597	15.1	75.7
		1952	4,896	1,515	6,411	12.4	101,696	6,293	4,059	76.3	1,344	30.0	40,062	16.5	49.3
	Central of New Jersey	1953	3,866	9,615	13,481	10.3	39,655	3,081	1,627	38.6	489	18.6	10,826	13.5	81.8
		1952	1,606	11,634	13,240	8.2	38,750	3,098	1,629	38.4	476	18.3	11,007	13.1	100.1
	Chicago & Eastern Ill.	1953	2,588	3,937	6,525	6.5	45,183	2,876	1,415	33.2	910	40.2	6,459	15.8	150.0
		1952	2,349	4,034	6,383	4.7	42,920	2,929	1,448	34.0	982	42.9	7,132	14.8	158.9
	Elgin, Joliet & Eastern	1953	6,836	11,192	18,028	5.1	20,957	2,722	1,466	42.8	248	9.1	18,777	8.2	104.2
		1952	6,528	13,749	20,277	4.8	20,193	3,033	1,650	43.4	246	8.7	21,425	6.9	108.1
	Pennsylvania System	1953	109,523	96,680	206,203	7.4	51,619	3,136	1,514	34.6	734	32.4	15,067	17.0	85.9
		1952	101,114	101,779	202,893	9.7	49,088	3,125	1,351	33.8	757	33.8	13,523	16.2	92.2
	Reading	1953	15,365	18,191	33,556	6.2	41,855	3,023	1,599	40.7	554	21.0	14,282	13.9	71.1
		1952	12,499	18,540	31,039	6.5	38,922	3,115	1,653	41.8	612	22.5	14,518	12.5	77.6
	Western Maryland	1953	5,921	3,630	9,551	4.5	45,405	3,252	1,839	46.8	1,208	40.4	12,229	14.3	65.4
		1952	4,928	3,323	8,251	2.6	38,532	2,798	1,549	45.0	1,126	39.4	9,925	14.0	56.9
Pocahontas Region	Chesapeake & Ohio	1953	51,279	25,503	76,782	3.4	68,900	3,840	2,132	47.1	1,183	43.1	17,951	18.0	80.6
		1952	53,457	22,653	76,110	2.9	62,624	3,677	1,975	44.9	1,022	39.7	15,690	17.2	63.8
	Norfolk & Western	1953	32,636	7,701	40,337	2.9	75,662	4,443	2,408	48.7	1,313	45.6	25,336	17.3	103.1
		1952	35,960	7,955	43,915	2.3	65,042	3,951	2,062	44.4	1,085	41.4	19,661	16.8	91.5
Southern Region	Atlantic Coast Line	1953	17,386	17,465	34,851	1.9	38,818	2,270	1,052	33.0	745	36.6	4,655	17.2	108.6
		1952	14,933	17,859	32,792	2.4	36,943	2,245	1,054	33.7	815	39.2	4,889	16.5	90.0
	Central of Georgia	1953	2,880	5,583	8,463	2.8	44,675	2,541	1,181	31.3	936	43.8	4,415	17.7	101.5
		1952	2,606	6,132	8,738	3.6	42,859	2,539	1,196	31.2	927	42.9	4,517	17.0	69.6
	Gulf, Mobile & Ohio	1953	4,604	11,534	16,138	4.1	69,691	3,637	1,745	32.3	1,148	51.2	6,719	19.2	127.1
		1952	3,722	13,188	16,910	2.1	67,228	3,667	1,801	32.8	1,212	51.6	7,187	18.4	132.5
	Illinois Central	1953	27,732	31,580	59,312	2.6	44,645	2,754	1,267	33.6	1,053	50.4	9,509	16.5	86.2
		1952	23,985	29,209	53,194	1.8	40,387	2,580	1,201	33.6	1,128	52.8	9,626	15.9	92.7
	Louisville & Nashville	1953	33,820	14,095	47,915	3.5	45,458	2,697	1,370	37.7	932	39.2	9,331	16.9	115.0
		1952	36,727	16,973	53,700	3.5	41,246	2,575	1,273	35.8	843	37.3	8,404	16.0	99.5
	Nash., Chatt. & St. Louis	1953	1,987	4,177	6,164	2.1	41,317	2,257	1,044	30.8	934	44.6	6,019	18.3	127.6
		1952	1,304	5,442	6,746	2.8	39,432	2,093	1,003	30.7	964	42.8	6,473	18.8	142.2
	Seaboard Air Line	1953	11,730	13,720	25,450	2.0	50,753	2,882	1,315	32.2	957	46.5	5,889	17.8	142.9
		1952	9,718	14,736	24,454	2.3	49,787	2,761	1,273	32.5	996	47.6	5,964	18.2	101.7
	Southern	1953	16,967	28,173	45,140	3.0	47,788	2,791	1,279	29.5	922	45.4	6,658	17.2	151.1
		1952	13,550	29,402	42,952	3.8	40,992	2,473	1,136	28.7	987	48.0	6,269	16.7	101.5
Northwestern Region	Chicago & North Western	1953	18,564	30,802	49,366	5.4	50,365	3,126	1,408	31.0	706	35.4	4,613	16.6	95.3
		1952	17,625	36,178	53,803	3.8	44,888	2,963	1,326	31.0	718	34.6	5,075	15.9	88.4
	Chicago Great Western	1953	1,457	4,635	6,092	3.3	77,190	4,196	1,920	29.8	1,495	70.8	6,168	18.4	147.0
		1952	1,278	6,167	7,445	2.5	71,534	4,156	1,990	31.6	1,363	59.3	6,857	17.3	151.9
	Chic., Milw., St. P. & Pac.	1953	31,366	31,365	62,731	6.5	50,698	2,923	1,308	30.0	760	38.4	4,598	17.5	102.6
		1952	28,132	33,124	61,256	4.6	47,342	2,801	1,264	29.6	805	40.4	4,807	17.0	91.0
	Chic., St. P., Minn. & Omaha	1953	1,207	7,471	8,678	4.7	34,181	2,447	1,120	31.2	675	30.7	3,730	14.2	65.6
		1952	1,124	8,113	9,237	2.8	32,298	2,188	1,033	31.4	685	30.1	4,034	15.3	84.0
	Duluth, Missabe & Iron Range	1953	14,936	636	15,572	3.7	84,326	4,835	2,886	60.2	1,010	33.1	27,860	18.4	95.8
		1952	14,745	2,233	16,978	2.8	76,445	4,691	2,734	59.3	1,011	34.1	29,930	17.9	90.6
	Great Northern	1953	22,337	26,728	49,065	3.0	51,706	3,113	1,517	36.9	1,345	57.5	7,894	16.8	107.3
		1952	20,817	23,173	43,990	3.3	48,252	3,036	1,481	35.7	1,438	61.8	7,916	16.1	99.6
	Minneap., St. P. & S. S. M.	1953	6,846	7,536	14,382	6.0	43,881	2,219	1,058	30.9	945	44.3	3,356	19.8	123.3
		1952	5,740	10,094	15,834	4.1	43,059	2,360	1,158	32.6	1,025	45.5	3,976	18.4	130.4
	Northern Pacific	1953	18,905	16,572	35,477	4.6	52,308	2,894	1,346	31.6	1,071	48.7	5,998	18.2	86.0
		1952	16,622	14,510	31,132	3.8	48,030	2,815	1,330	31.4	1,164	51.5	5,903	17.2	86.5
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1953	46,037	35,327	81,364	3.1	64,976	2,904	1,100	25.0	1,148	70.4	7,122	22.5	131.4
		1952	43,654	40,822	84,476	3.6	62,373	2,892	1,119	25.3	1,221	72.2	7,673	21.7	134.2
	Chic., Burl. & Quincy	1953	19,648	26,120	45,768	2.7	53,178	2,782	1,235	29.3	1,235	63.2	6,302	19.2	131.7
		1952	19,117	26,292	45,409	2.4	53,414	2,824	1,272	29.5	1,260	62.7	6,444	19.0	105.1
	Chic., Rock I. & Pac.	1953	11,447	20,733	32,180	4.1	51,294	2,699	1,190	30.1	1,078	53.7	4,446	19.1	174.9
		1952	12,196	24,110	36,306	3.0	50,542	2,822	1,225	30.2	1,083	54.4	5,010	18.0	136.9
	Denver & R. G. Wn.	1953	6,905	7,989	14,894	2.5	55,199	3,188	1,508	31.9	1,230	54.1	8,066	17.4	103.9
		1952	6,899	9,328	16,227	3.0	51,336	2,981	1,393	30.8	1,212	53.4	8,245	17.3	116.4
	Southern Pacific	1953	29,701	43,090	72,791	2.3	54,333	3,104	1,262	27.9	1,257	70.3	11,554	17.6	109.4
		1952	28,096	50,707	78,803	2.0	51,773	3,077	1,250	27.8	1,246	69.5	12,489	17.0	117.6
	Union Pacific	1953	29,649	39,077	68,726	2.2	66,683	2,807	1,173	29.2	1,677	90.3	11,798	24.0	134.5
		1952	28,580	39,346	67,926	2.4	61,211	2,709	1,121	27.3	1,654	90.5	11,774	22.9	148.0
	Western Pacific	1953	2,343	3,415	5,758	5.8	73,791	3,035	1,390	28.3	2,026	96.3	10,051	24.4	177.6
		1952	2,280	4,310	6,590	4.6	68,742	3,055	1,412	29.3	1,835	85.6	11,174	22.7	209.7
Southwestern Region	International-Gt. Northern*	1953	793	5,732	6,525	3.1	53,114	2,638	1,242	33.9	963	43.0	5,667	20.2	105.0
		1952	757	7,604	8,361	2.0	53,358	2,755	1,274	33.1	871	38.3	6,663	19.4	99.6
	Kansas City Southern	1953	749	6,612	7,361	2.1	78,111	3,765	1,746	32.8	1,378	63.5	10,773	20.9	230.4
		1952	930	7,535	8,465	3.4	73,834	3,766	1,794	32.9	1,350	59.3	12,295	20.0	195.6
	Mo.-Kans.-Texas Lines	1953	3,843	7,451	11,294	4.3	52,715	2,601	1,095	27.2	1,249	69.6	4,280	20.3	148.5
		1952	3,124	8,126	11,250	5.3	50,638	2,565	1,094	27.8	1,343	75.0	4,580	19.8	139.7
	Missouri Pacific*	1953	15,816	19,229	35,045	2.7	58,863	2,769	1,250	30.3	1,397	68.4	7,068	21.3	109.3
		1952	17,425	20,229	37,654	3.0	54,802	2,688	1,228	30.2	1,448	69.1	7,635	20.5	122.0
	Texas & Pacific	1953	2,525	7,573	10,098	4.2	63,970	3,072	1,213	27.6	1,282	71.9	6,948	20.9	189.5
		1952	2,347	7,953	10,300	2.9	63,295	2,912	1,160	27.5	1,343	75.3	7,370	21.8	167.3
	St. Louis-San Francisco	1953	10,989	13,432	24,421	3.7	45,157	2,640	1,162	30.1	999	51.8	5,386	17.1	122.6
		1952	8,465	18,118	26,583	2.5	44,959	2,664	1,163	30.0	1,015	53.4	5,610	16.9	110.2
	St. Louis Southw. Lines	1953	1,962	5,335	7,297	1.8	53,134	2,862	1,279	27.3	1,827	91.3	8,290	18.6	134.4
		1952	1,968	6,013	7,981	1.5	51,710	2,670	1,194	27.1	1,783	90.6	8,756	19.4	146.6
	Texas & New Orleans	1953	5,650	17,032	22,682	1.3	49,690	2,576	1,120	30.3	1,215	63.9	6,339	19.4	120.8
		1952	5,400	19,057	24,457	2.6	46,471	2,488	1,109	30.5	1,190	59.5	6,847	18.8	122.2

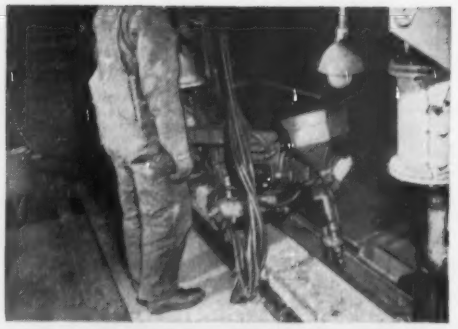
*Report of trustee or trustees.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Step Up Car Building with Unionmelt Trade-Mark Welding

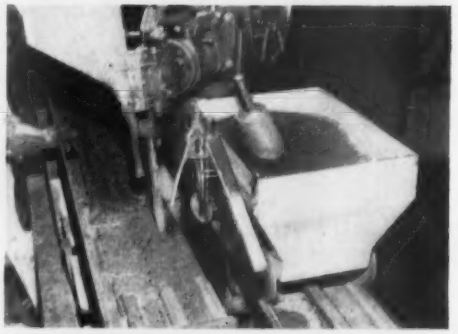
Major car building programs have included UNIONMELT welding for years. . . . And every month, railroad shops all over the country are adding more and more efficient and economical UNIONMELT installations. The reason is plain and simple: UNIONMELT *welding means higher production at lower cost.*

Here are just a few reasons for including UNIONMELT welding in car building programs:



91 ft. of strong welds are made in less than 8 minutes welding time on these baggage car side sheets . . . The UNIONMELT installation used in this efficient setup makes 13 different welds — requires little manipulation.

Sound welds between the web and top plates of these car bolsters assure stronger, better cars . . . A UNIONMELT machine makes the welds between the ¼-in. web and ⅜-in. steel cover plates at about 35 in. per minute.



In order to make cars strong, parts are welded into the sill making them integral with it. This UNIONMELT setup has no trouble making the required welds for the rear draft lugs, through slots in the sill.

Where joints were previously not adaptable for automatic welding, the UNIONMELT flexible machine now makes clean, sound welds.

If you would like to know more about UNIONMELT welding and car building, send for booklet F-7767.

OXWELD RAILROAD SERVICE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York
In Canada:
Canadian Railroad Service Company, Limited, Toronto

OXWELD RAILROAD SERVICE

SINCE 1912 THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The term "Unionmelt" is a registered trade-mark of Union Carbide and Carbon Corporation.

Benchmarks and Yardsticks

A LOT OF PEOPLE are inclined to look upon "the profit motive" in business as, at best, a necessary evil—something that, perhaps, has to be tolerated, but certainly nothing to be happy about. They may enjoy the results, but they don't want to be reminded of the cause—any more than the man eating a beefsteak wants to think of the operations in the slaughterhouse which produced the steak.

No reasonable grounds exist for such a shamefaced attitude toward profits. Profits are praiseworthy both morally and economically — because (if earned in a free market, without coercion) they measure and promote thrift in the utilization of labor and materials. Thrifty conservation of resources (elimination of waste) is a worthy objective, of economic effort, and of moral effort as well.

In a free market, the business which earns a profit is one which produces a product which is "worth" substantially more than the value of the labor and material that have been expended to produce it. The business which earns a profit is one which takes labor and materials freely available for (say) 70 cents and puts them into a form which customers freely pay $1 for. Certainly the consuming public is enriched when things they would pay only 70 cents for are converted into things so useful they willingly pay $1 for them.

Some people have been misled into resenting the fact that "giant corporations" earn a profit from the manufacture and sale of "the necessities of life." They believe it would be better, morally at least, if such corporations were to be owned by the government so there would be "production for use and not for profit."

"Production for use and not for profit" usually means taking labor and materials which are valued in the free market at $1 (or maybe even $1.25) and selling them for $1—thus adding nothing to the sum total of satisfaction of people's wants. An enterprise operating under the maligned "profit motive" is one which combines labor and materials in such a way that consumers will derive more use and more satisfaction than this labor and material could have provided if not so combined. An enterprise which operates without the profit incentive can be pretty well depended upon to waste both labor and materials and to produce things that cost more than people are willing to pay for them.

The profit motive, of course, will not work in areas of non-economic activity. And so-called "profits" derived from coercion (i.e., from monopolies, subsidies, graft or fraud) are not really profits at all, and cannot be defended. There is no sound reason for curtailing the economic areas in which the profit motive is allowed to predominate; instead such areas should be extended. J.G.L.

Section of track before treatment with S/V Agronyl R.

Same track 30 hours after first spraying.

After 4 weeks, right-of-way is clear, free of weeds.

Now! Control Weeds FOR LESS THAN $15 Per Mile!

S/V Agronyl R destroys all annuals, most grasses, many perennials with first application!

Are you spending more than 15 dollars per mile to control weeds? If you are, you can make substantial savings by using *S/V Agronyl R*—Socony-Vacuum's new weed killer that was developed as part of a cooperative railroad research project.

This economical weed killer is applied at the rate of about 60 gal. per acre—depending on heaviness of growth. It requires just the usual spraying equipment—can be used straight or emulsified with additives. It has a high flash point—presents minimum fire hazard.

Tests by six leading railroads have proved the effectiveness of *S/V Agronyl R*. Applied in the spring when weeds are 6" to 8" tall, its killing action starts immediately on contact. Evidence indicates no plant resistance build-up. Except where right-of-way has been badly neglected, *S/V Agronyl R* destroys all annuals, most grasses, many perennials *with the first application!*

For full details regarding *S/V Agronyl R* — cost, method of application, results — call your Socony-Vacuum representative.

* * * *

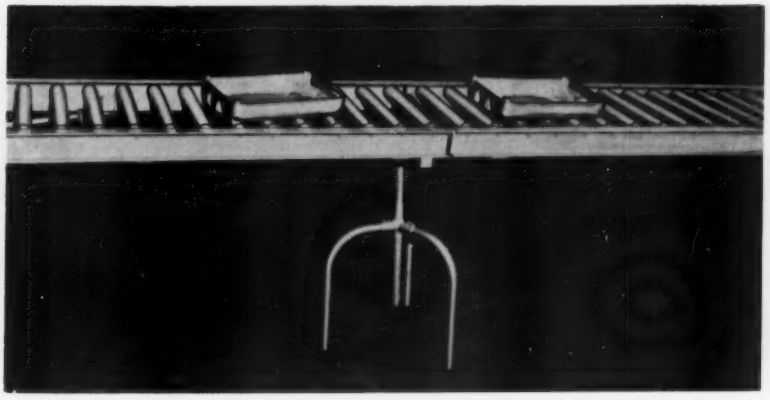
Socony-Vacuum Oil Co., Inc.

Railroad Lubricants

RAILROAD DIVISION

26 BROADWAY, NEW YORK 4, N. Y.

What's New in Products

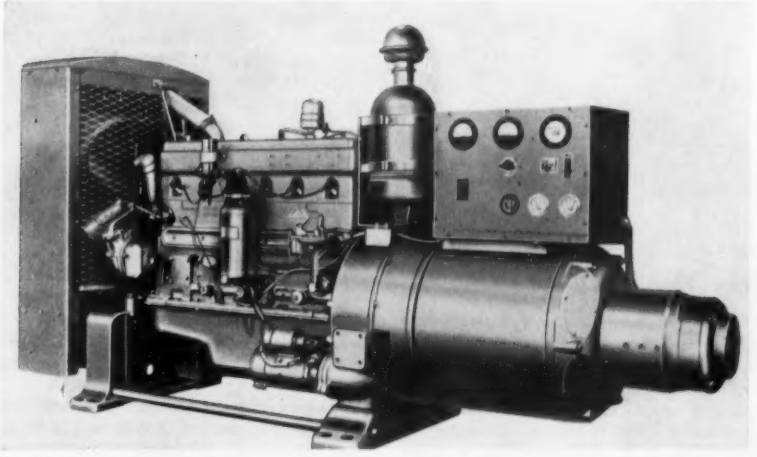


Magnesium Conveyor

A new portable roller conveyor system has been announced by Magline, Inc., Pinconning, Mich. Fabricated entirely of magnesium, this new gravity system is said to combine capacity-rated strength and utility with magnesium lightness and greater ease of handling. According to the manufacturer, Magliner units weigh from 15 per cent to 40 per cent less than comparable equipment of similar size and capacity, thereby providing extra facility in manual handling.

Designed primarily for use where portability and conveyor job-spotting is a major consideration, one man is reported to be able to set up, dismantle or relocate the conveyor system in considerably less time than normally required.

Of standardized construction throughout, the conveyors can be installed as a complete system, or supplied in individual sections, with couplers to match existing equipment. Portable magnesium stands in three height ranges, from 17 in. to 72 in. above floor level, are also offered •

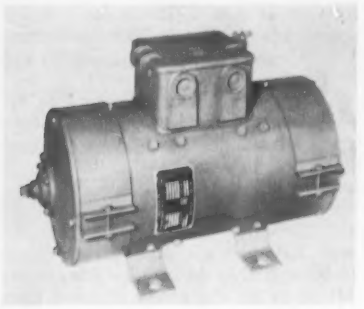


50-Kw. Electric Plant

D. W. Onan & Sons, Inc., Minneapolis, Minn., announces a new 50-kw., 62.5-kva. electric plant, Model 50KA. The International Harvester gasoline engine delivers 104 hp. at 1,800 r.p.m. and has a 450 cu. in. piston displacement. It is equipped with replaceable cylinder liners, roto exhaust valves, oil bath air-cleaner and a remote, 12-volt starting system. Watercooling, full-pressure oil lubrication with a sump capacity of nine quarts and a low oil pressure cut-off to protect the engine are other features.

The Onan-built generator is of drip-proof design, direct-connected to the engine for permanent self-alinement. Voltage regulation is plus or minus two per cent. An improved brush rig features constant-pressure springs.

The control box, mounted over the generator, is equipped with a charge rate ammeter, electric water temperature gage, electric oil pressure gage, start-stop buttons and running time meter. An automatic voltage regulator is installed inside the control box •



M.G. Set for Radio Power Supply

The Safety Car Heating & Lighting Co., New Haven, Conn., announces a new conversion unit, the Safety B-1042-2 motor generator set for 64 volts input to 12 volts output.

Designed as a power source for 12-volt d.c. radio equipment, the new set is rated at 300 watts output. It has inherent voltage and speed regulation and can be started directly across the line. The regulation has no moving parts and automatically compensates for input voltage variations from 56 to 80 volts, for load fluctuations between no load and full load, and for temperature changes. Its totally enclosed construction permits it to be mounted on the exterior of a locomotive •

Protected and Enclosed Motors

A line of protected squirrel-cage induction motors is being introduced by the Reliance Electric & Engineering Co., 1088 Ivanhoe Road, Cleveland 10, Ohio. The line, including protected and enclosed motors for all industrial purposes, is being built to recently

adopted standards of the National Electrical Manufacturers Association.

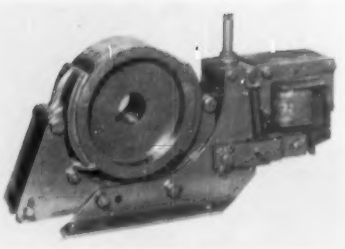
Research in the fields of new insulating materials, ventilation, heat transfer and more efficient electrical designs has made possible greater horsepower in more compact space with equal and in some cases even greater liberality than in past Reliance designs. Research has also led to better protection of the motor windings, leads and bearings.

The first of the new motors to appear will be built for 1, 1½ and 2-hp. applications, in frame sizes 182 and 184. The balance of the line, up to and including 30 hp., will be introduced at regular intervals during 1954 and the early part of 1955. The present Reliance a.c. line will continue to be available during this changeover period to fill the needs of those users who wish to complete current projects with motors as they are now being built •

High Voltage Tester

An addition to its line of high-voltage testing instruments, which extends the range of output voltage available to 10,000 volts a.c. in a portable type instrument, has been announced by Associated Research, Inc., 3758 W. Belmont ave., Chicago 18. Designated the Hypot Junior Model No. 422, this instrument features visual indication of electrical leakage and breakdown, continuously variable voltage output from 0-10,000 volts, and a kilovolt meter connected directly across the high voltage output for accurate indication to plus or minus 3 per cent of full scale regardless of load characteristics. Input is 115 volts 60 cycle a.c.

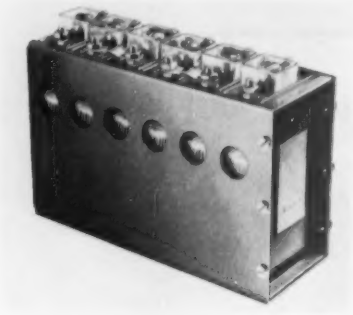
The instrument is housed in a steel case 11½ in. by 8½ in. by 10 in. with a removable hinged cover. Net weight is approximately 25 lb. •



A. C. Motor Brake

A new single-adjustment a.c. brake (Type AK) is available from the Westinghouse Electric Corporation, East Pittsburgh, Pa. The result of a complete redesign, this brake combines what were three adjustments in one: (1) spring compression, to control torque; (2) magnet travel, to control total shoe clearance from wheel; (3) auxiliary screw adjustment, to equalize shoe clearances. Also, a visible indicator has been provided to show the maintenance crew when and how much to readjust for brake wear.

The brake is said to be applicable to practically all a.c. motor installations that demand start-stop operation or quick deceleration, such as cranes or machine tools. Although designed for normal mounting on a horizontal plane, it will function regardless of the angle of the mounting plane •

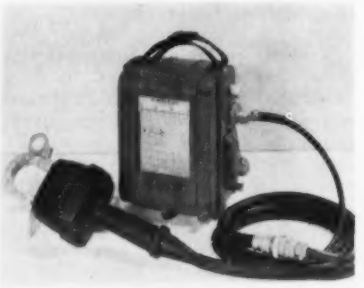


New Type Storage Battery

A nickel-cadmium storage battery of a sintered-plate type which has been in military service for the past four years is now being made available for general applications by the Battery Division of the Sonotone Corporation, Elmsford, N. Y. The sintering or heat-fusing used to form the plates deposits the plate metals in microscopic pores and produces plates having very large working surface areas. At the same time, the plates have smooth surfaces which permits their being packed together with only thin separators. The electrolyte is potassium hydroxide.

The result is a battery which has low internal resistance making it suitable for engine starting and at the same time, according to the manufacturer, allowing it to be cycled (completely discharged and recharged) indefinitely without appreciable loss of life or capacity. Ability to cycle is a must for passenger car air conditioning service.

The manufacturer states that for equivalent capacity it requires less space than batteries of other types, that it is not subject to damage by shock or vibration, that it is not injured by overcharging, reverse charging or short circuiting, that it requires very little flushing, that it will operate at temperatures between minus 65 and plus 165 deg. F., and that it may be charged and discharged at very high rates. Tests are said to indicate the battery should have a life of 20 years. Its initial cost will be more than that of a lead-acid battery of the same capacity •



Recording Hook-on Volt-Ammeter

A portable recording instrument for obtaining a permanent record of alternating current and voltages has been developed by the General Electric Company's Meter and Instrument Department, Schenectady 5, N.Y.

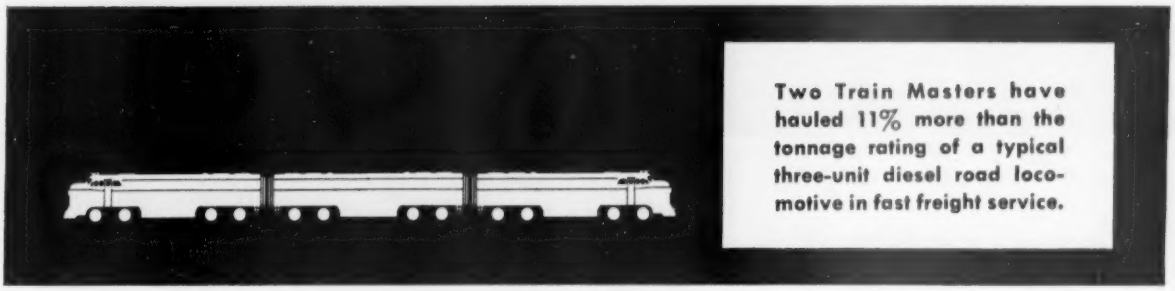
The new volt-ammeter, designated G-E Type CF-7, combines features of a self-latching multirange hook-on current transformer and the simplicity of the Type CF inkless recorder in equipment suitable for indoor and outdoor applications.

It is expected to be particularly useful for checking loads on distribution lines, verifying motor loads, and in detecting overload circuits in transformers, motors and other a.c. apparatus.

The equipment consists of a hook-on current transformer, a connecting lead, and an inkless recording volt-ammeter. All three components are completely interchangeable with no sacrifice in accuracy.

Featuring a self-supporting hook suitable for all conductors up to 2 in. in diameter, the transformer provides current ranges from 15 to 750 amp., selected by a range-changing switch on the side of the instrument. The recorder itself measures the voltages in three ranges (0-150/300/750 volts) by means of the range-changing switch •

in Fast freight service



Two Train Masters have hauled 11% more than the tonnage rating of a typical three-unit diesel road locomotive in fast freight service.

A sound investment . . . Diesel Motive Power
Your soundest investment . . . Train Masters

TRAIN MASTER

. . . trend maker in today's move toward more powerful . . . more useful Diesel Motive Power.

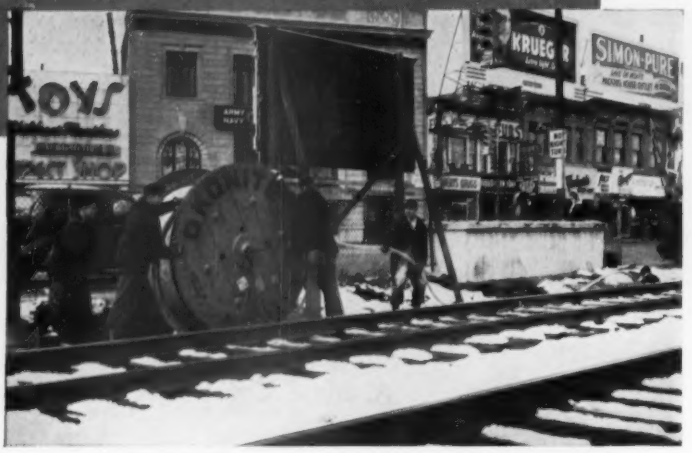
Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

FAIRBANKS-MORSE

a name worth remembering when you want the best

DIESEL LOCOMOTIVES AND ENGINES • RAIL CARS AND RAILROAD EQUIPMENT • ELECTRICAL MACHINERY • PUMPS • SCALES • WATER SERVICE EQUIPMENT • HAMMER MILLS • MAGNETOS

ERIE SELECTS OKONITE POWER AND SIGNAL CABLE

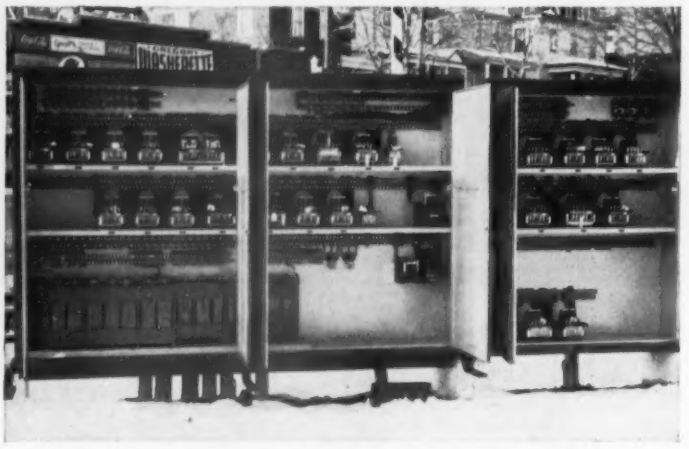


Service-proved Okonite combination power and signal cable being installed in the conduit was selected for resistance to extremes of Eastern climate. The insulation is applied by the strip process and vulcanized in a continuous metal mold to provide a uniform cure throughout the entire length of cable. This assures better physical and electrical characteristics than can be obtained by any other method.

In Passaic, N. J., the Erie Railroad recently removed the old gate towers and manually controlled crossing gate system and installed 13 new automatically controlled gates. The instrument cases are wired with Okonite signal control wires at 13 crossings and the combination power and signal cable the men are shown installing is another Okonite product.

Every automatic crossing along your right of way will benefit from the circuit security provided by Okonite cables and wires. Your maintenance costs will decrease, and good will should increase. Why not profit from the experience of over 100 Class 1 roads and transportation systems and install Okonite?

For information on Okonite railroad wires and cables consult your local representative or write
The Okonite Company, Passaic, N. J.



The Okoprene sheath protecting the Okonite signal control wires specified for this instrument case will not permit end leakage and need not be removed at terminal ends. Thus, the completely protected rubber insulation is not exposed to the elements and will not check or crack. A substantially increased service life is the result.

OKONITE SINCE 1878 *insulated cables*

75th ANNIVERSARY

1725

How to Avoid Dangers In "Piggyback" Service

Two weeks ago in this space there was begun a discussion of the trailers-on-flat-cars, or "piggyback," project. The viewpoint was there advanced that some use of this arrangement by the railroads was desirable—the real question being just how to adapt the device to railroad service, while minimizing some of the attendant difficulties.

Many railroad operating people are quick to sense the obvious mechanical and service advantages of such an operation, viz., high utilization of railroad equipment, high-speed over-the-road service, and the simple, economical terminal operations which minimize the need for yards and switching service.

Most traffic people, on the other hand, are properly cautious, because they are more aware than most other railroad men are of the serious difficulties to be overcome in connection with this service. Some of them, indeed, see in T-O-F-C a mechanism which might crack existing tariff structures wide open, bring about wholesale diversion of existing rail traffic to trucks, and exert strong pressure to reduce rates on all traffic remaining on the rails. These misgivings deserve careful attention, as do the legalities and technicalities of the entire subject.

The Interstate Commerce Commission has agreed to answer some of the unanswered questions about this service, but, in general, it would appear that the essential outline of what may be done is defined with reasonable clarity in the Interstate Commerce Act and in the rulings of the I.C.C. in the so-called Substituted Freight Service case (Ex Parte 129) in 1939. Such conclusions as the following seem to be justified:

1. Joint motor-rail-motor rates and services—a legal basis upon which "piggybacks" might be operated—would appear to be permitted and authorized by Section 216 (c) in Part II of the Interstate Commerce Act. Subsequent rulings of the commission, as we understand them, have had the effect of restricting such joint rates and service to common carriers—both rail and motor. In other words, it would not appear that a common carrier railroad may enter joint rate or service arrangements with any but a motor common carrier.

2. The act further provides that the participating common carriers must enter into an agreement for a division of the total revenue received from each movement. The only tariff required, apparently, is a directory published by the motor common carrier, in which the interested railroad concurs, showing the points between which rail service may be substituted for highway, and the names of the carriers involved. The motor carriers' tariffs must refer to this directory. The act does not specify how the division of revenues should be made, but it might appear advisable for the railroads to establish their divisions on a fixed charge basis—though they might legally seek a percentage of the total revenue, if any motor carriers can be found to go along with such an arrangement.

3. No railroad may enter into a substituted service (or piggyback) agreement with a motor common carrier unless that motor carrier has authority to operate by highway between the points where substituted service is to be offered. Any restrictions imposed on the highway certificate, as to commodities handled or communities served, would likewise govern the substituted service by rail. Violations of the motor carrier's certificate are the sole responsibility of the motor carrier; the railroad is in no way obligated to police compliance. There seems to be nothing to prevent a railroad, in making a joint rate agreement with a motor common carrier, to impose commodity restrictions of its own to protect certain shipments which might otherwise become subject to diversion.

4. Joint rate and service agreements with contract truckers would appear to be clearly prohibited by the Interstate Commerce Act. The commission has further held that contract truckers may not avail themselves of any tariff arrangements because "no carrier may assume the position of a shipper for one part of his services, while being a carrier as to another." It does not, therefore, appear to be legally possible for a railroad to handle, under any conditions, loaded trailers belonging to a contract trucker.

5. Joint rates with freight forwarders are not permitted by law, but the situation with respect to their moving traffic in trailers on a tariff basis is somewhat confused. Regardless, however, of what is permitted, there does not appear to be anything in the law to compel the railroads to publish tariffs or enter into T-O-F-C agreements with forwarders.

6. Private trucks and trailers may be handled only on the basis of legally filed, published tariff rates. As a practical matter, such rates would probably have to be on an "all commodity" basis,

and, if low enough to attract traffic, would run the risk of possible large-scale diversion of existing railroad freight to a lower rate basis. Since there is no obligation to publish such tariffs, it seems certain that most railroads would be extremely reluctant to take this step. By simply refraining from publishing piggyback tariffs available to all, it would seem to be possible to avoid the one opening which really would make possible large-scale diversion of existing traffic to lower-rate movement.

There are other aspects to this T-O-F-C operation—on the plus as well as the minus sides—which will be discussed here in subsequent issues. After a great deal of investigation and study, our conclusion has been that the possibilities of this service—for good as well as for harm—become more impressive the more they are examined. The railroads would do well not to overlook the favorable possibilities—but, at the same time, it never was good practice to buy a pig (or a piggyback) in a poke.

How to Construct Competitive Rates

Our contemporary, The I.C.C. Practitioners' Journal, in its January issue, has published a couple of highly constructive articles which are worthy of the attention of everyone with a serious interest in transportation policy—particularly as it refers to rates and regulation.

One of these articles is entitled "Use of Costs in Making Competitive Rates," by William B. Saunders, transportation consultant. Mr. Saunders brings out very clearly some of the essential differences between the cost characteristics of railroad service and those of truck service, and the consequent differences which should govern an economic approach to rate-making by the two types of transportation. He makes very clear that the usual methods of comparing "out-of-pocket" costs of the two types do not provide fairly comparable figures.

He also gives due weight to the most important fact that, from the shippers' standpoint, transportation costs include "internal" costs—quite separate from the charges paid to carriers. If one carrier minimizes the shippers' "internal" costs (e.g., intraplant movement, packaging costs, etc.) then this carrier may, even with higher rates, have an advantage over a competing carrier. The shipper, as Mr. Saunders points out, "makes the final selection in terms of his own total cost rather than in terms of the truck and rail costs." He also points out that the "ceiling" on railroad rates is not the rate of common carrier trucks (less compensation for any advantage that trucks may enjoy in minimizing the shippers' "internal" costs); instead, the "ceiling" on the rates of both truck and rail common carriers lies at the total cost to the shipper of providing contract or private transportation. There is a good deal of pencil work going on these days in the area of competitive rate-making and Mr. Saunders' observations should provide practical guidance for many who are making calculations of this kind.

Another constructive article in the same issue of the Journal is the complete text of the recent speech of Charles L. Dearing, deputy undersecretary of commerce for transportation, which was reported, in part, in our issue of January 11, and commented upon in this space two weeks ago.

Rate Making Rule Indefensible

The current issue of the Journal also contains an article by the distinguished practitioner, R. N. Burchmore, in which he defends the existing rule of rate-making of the Interstate Commerce Act. Any arguments which can be advanced in favor of the present rule, it seems to us, are nullified by the fact that the rule hasn't worked. That is to say, even in a time of maximum traffic the rule has not operated to give the railroads earnings comparable to those of other industry—and which the railroads must have if they are to have access to an adequate supply of investment capital. Mr. Burchmore fears that the elimination of the "movement of traffic" clause would "destroy rate regulation." Our opinion, perhaps not unprejudiced, is that rate regulation is not an end in itself. If it cannot be contrived in a manner to give the regulated business the same opportunity to stay in business that unregulated business enjoys, then it is a cure which is worse than the disease.

Rate regulation was initiated to protect the public from arbitrary monopoly pricing—an opportunity which has now almost entirely vanished, even if regulation were abolished. The justification for continued regulation must lie in its (still unproved) ability to make the highly competitive transportation market somewhat more orderly than it would be otherwise—while not denying to any agency the right to bid for all traffic for which it possesses an "inherent advantage," and an opportunity to earn a return comparable to those obtainable in unregulated business. If regulation cannot exist (as Mr. Burchmore appears to believe) without retaining features which experience has shown to be lethal to the regulated business, then so much the worse for regulation.

Adequately serving commuters is universally a headache for railroads. But they can be good friends and good business, the Burlington has learned from its affirmative approach to the question:

Are Commuters Worth It?

Increased revenues and reduced expenses stemming from $15 million commutation improvement program check annual service losses

Commutation revenues have been increased and the upward trend of service costs has been blunted by the Chicago, Burlington & Quincy in its Chicago-Aurora commutation service. A five-year program of service betterments combined with improved operating techniques and practices turned the trick, and actually brought diminishing annual losses.

The Burlington management believes—and its commuter-patrons apparently agree—the service never has been better.

Commuters "Good Business"

"Our commuters are our neighbors," Harry C. Murphy, CB&Q president, has often said, "and that makes them important to us. They are much more than just twice-a-day riders. They are shippers, travelers, potential vacationists. Most important, when pleased by our service, they become our enthusiastic salesmen-at-large. Consequently we feel that to give our commuters good suburban service is good business." These words typify the thinking and the philosophy that has gone into the Burlington's $15 million suburban service improvement program—making it one of the best, and most talked about, railroad commutation services in the country.

This attitude of the management in approaching the problem has undoubtedly been the most important factor in the development and growth of the suburban service program. In essence, the Burlington has accepted the facts that its commutation service is a necessary public utility and an essential factor in its public relations, and that its discontinuance—even if the Illinois Commerce Commission were to permit such a drastic action—would work serious hardship on its patrons and on the communities where they live. Therefore, all thinking and attention has been concentrated on positive ways and means of reducing service losses by improving patronage and revenues as well as by reducing expenses.

There are many special circumstances which made possible the particular combination of service improvements and operating economies used by the Burlington.

HIGH SEATING CAPACITY plus passenger comfort was found in Budd "gallery" coach.

TRIAL CARS were used to determine commuter preferences before old cars were modernized. Advertising signs have been discontinued.

One is that its suburban service problem is somewhat simplified by having but one 3-tracked main line running into Chicago, with no branches or alternate routes. These facilities are used both for main-line passenger and freight trains and suburban service. And there are no "special" suburban facilities other than additional coach storage tracks at Chicago and Aurora, a well-equipped diesel maintenance shop at Aurora, and the suburban station buildings.

Highway competition is not as keen as it might be because from Burlington suburbs the downtown areas of Chicago can only be reached otherwise by overcrowded highways and congested city streets. However, completion of the new west-side Congress Street superhighway (scheduled for 1955) may change this picture somewhat, although the road will not directly tap any CB&Q communities.

The only bus competition—and that a transit-type operation—extends only as far west as La Grange. The railroad provides the only intercommunity public transportation available west of that point.

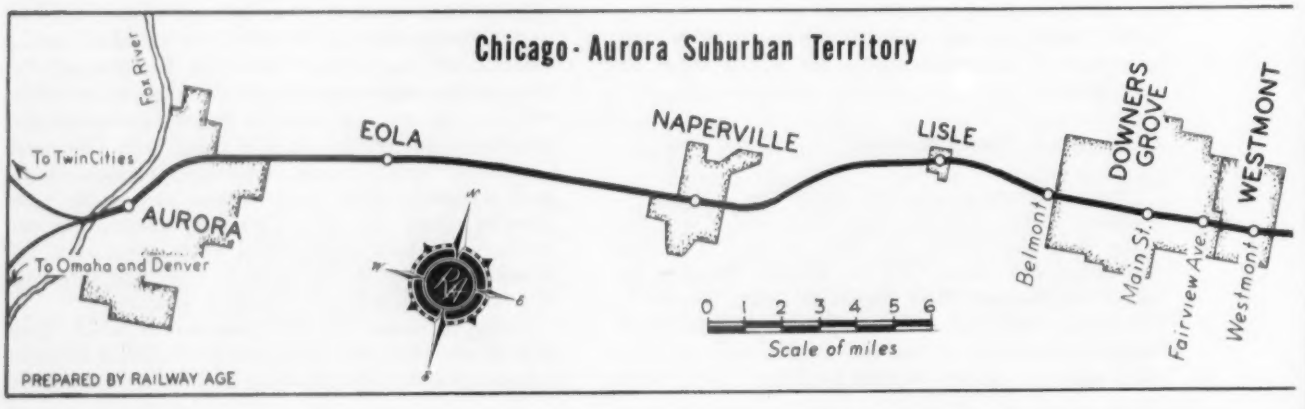
A combination of conditions led to a thorough review of the entire Burlington suburban service picture, and the preparation of a long-range plan for action.

The postwar growth of suburban population resulted in larger commutation crowds on the Burlington—as on most other suburban lines throughout the country—creating a track capacity problem at Union Station in Chicago. Increasing train lengths made it difficult to get the fullest or best use of the four westernmost "suburban" tracks and platforms. Likewise, the same long trains were causing troubles at suburban station platforms.

At the time, all suburban service was being operated with steam power and with 128 open-vestibuled coaches built between 1910 and 1930. Maintenance costs on the 63 oldest cars were mounting—and it was determined that the cost of complete modernization would be excessive. Therefore it was decided to retire these cars, or divert them to company service. The remaining 65 cars were of more recent vintage and basically more sound. But they were without modern lighting or closed vestibules.

It was also obvious that the increasing use of diesel power would sooner or later require some service changes.

Because some of the existing equipment was over age, and the rest needed modernizing, it was decided that every car should be replaced or completely remodeled.



ELECTRICAL POWER for all cars is produced in the "power coach" directly behind the locomotive.

After considerable study, it was determined that any new cars must meet three primary considerations: (1) Each car must have a high seating capacity—preferably well over 100 passengers per car; (2) the cars must be economical to maintain and operate; and (3) the cars must be attractive to passengers. Conditions (2) and (3) were also applied to plans for modernizing older cars.

It was finally decided to do two things: (1) to modernize the 65 newer all-steel suburban coaches. (In the process, they were given closed vestibules, new seats, new and improved lighting, roller bearings, and ice-activated air-conditioning.) (2) To acquire 30 new stainless steel, air conditioned "gallery" suburban coaches from the Budd Company. The "gallery" design was selected because it combines high seating capacity (148) with comfort for the individual passenger, and because its design facilitates rapid loading and unloading. (For a full description see *Railway Age*, October 21, 1950, page 20.)

It has long been the Burlington practice that equipment should be bought on the basis of quality and durability, rather than price. Therefore adequate capital was advanced to secure equipment designed and constructed to give long, economical passenger service life.

The Burlington used a system of "head-end" lighting, with all electrical power for the entire train produced by a generator on the steam locomotive. The increased power demands for lighting on the new and rebuilt coaches, and the conversion from steam to diesel power, necessitated changing to the use of a special diesel-driven generator placed in a "power coach" carried at the front or rear of every train.

By 1951 the new equipment, coupled with other service improvements, produced so much new traffic that it was necessary to order 10 additional "gallery" coaches, and to convert 23 main-line coaches for suburban service.

Equally important, maintenance and operating costs of the new 128-car fleet so far are lower—though admittedly these costs are currently influenced by the newness of the equipment. But indications are that so long as the cars are properly serviced and maintained they will continue to be relatively economical.

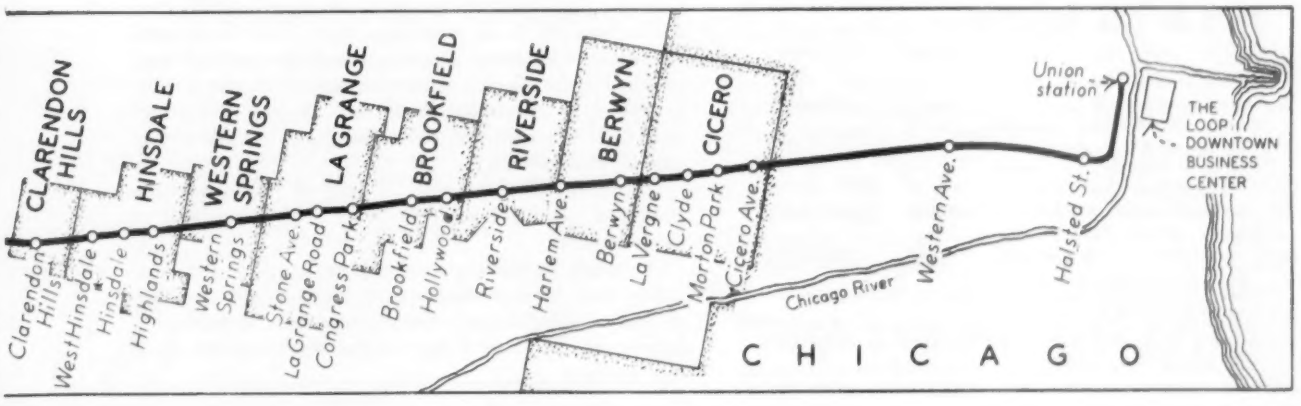
Diesels Pooled for Economy

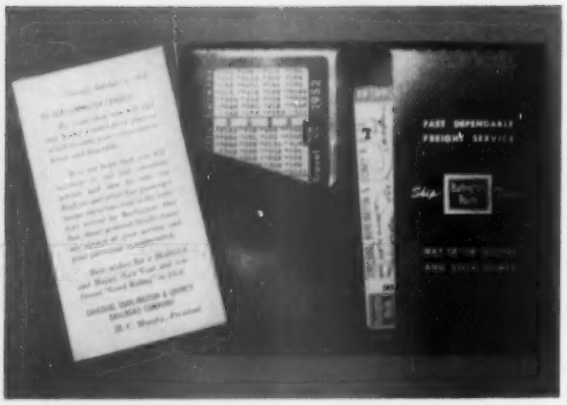
Conversion from all-steam to complete diesel operation was the second step in the program. This made possible faster, cleaner service, as well as numerous operating economies.

The amount of power needed to operate the suburban service was reduced by integrating suburban and main-line passenger locomotives into a unified pool. Thus a two-unit main-line engine could be split, with each unit handling a separate suburban train out to Aurora and back.

An unusual feature of this pooling plan is the way in which it was utilized to permit closing roundhouse facilities in Chicago formerly exclusively devoted to storing and servicing passenger engines. Under the pooling arrangement, inbound main-line passenger engines are worked out to the Aurora shops and back on commutation trains. In this way the "dead" time of suburban trains at Aurora is utilized to make light and running repairs to approximately 18 units a night, thereby easing the maintenance burden at the main 14th Street passenger shops in Chicago.

Another operational change was the closing of the intermediate suburban terminal formerly maintained at Downers Grove. All trains now originate or terminate in Aurora. The closing of this intermediate terminal was





EACH NEW YEAR the CB&Q gives its commuters this handy ticket wallet containing a friendly greeting.

made practical by the elimination of steam and the substitution of diesel power.

Closing the Downers Grove terminal required the operation of a substantial number of additional train-miles per week. However, the decision of the Post Office Department to truck local mail permitted the discontinuance of several trains operated primarily for the mails. And some consolidation of commutation hour schedules was made possible by the new high capacity cars and diesel power. Thus the transition—which was made over a period of 18 months—was accomplished without reducing service, and without the full number of additional train-miles that would otherwise have been necessary.

Better Service for More Revenue

The need for faster, more attractive schedules to the more distant suburbs was emphasized by the rapid population growth in these areas. Scheduling possibilities were strictly limited by the comparatively even spread of population at all stations between Berwyn and Downers Grove. Further, the only available crossovers were at Congress Park and Downers Grove, eliminating the possibilities of "run arounds" in the area of densest traffic. This situation will be alleviated soon with the completion of a new crossover being placed at West Hinsdale, which will be controlled from the Cicero tower.

THIS IS THE RECORD

	1949	1953
Number of cars in service	128	128
Total seating capacity	12,680	13,491
Number of locomotives required for commutation service	24	19
Passengers handled per month (average per month, commutation and multiple ride)†	454,994	546,101*
Average revenue per month—commutation and multiple ride†	$112,163	$139,834**

*Based on first nine months.
**Before the fare increase. Fares in effect in 1949 and the first 10 months of 1953 were identical.
†These figures are based on ticket sales and do not include passengers using one-way and round-trip tickets, or paying cash fares on trains.

After a two-year study of the needs of the commutation patrons, schedules were completely revised. In this revision, provision was made for the maintenance of a high standard of mid-day and post evening rush hour service.

This practice has paid off in two ways: (1) Increased equipment utilization has helped reduce costs; and (2) some of the suburban revenue gain, the passenger department believes, has resulted from the patronage of these off-peak trains.

Still greater flexibility in scheduling will be possible upon completion of a resignaling program now in progress between Cicero Avenue and Aurora. The existing 3-indication block signal system is being replaced with a 4-indication system. Eventually centralized traffic control permitting two-way running on the center track will be installed.

This is part of a general line and yard improvement, and is not being undertaken primarily for the benefit of the commutation services.

Commuters Support Fare Rise

During the transition stage in the suburban improvement program, no effort was made to raise the fare schedule. But early in 1953, it became obvious that steadily increasing operating costs had created a serious need for additional revenue. Therefore a new tariff calling for an average 27½ per cent increase in commutation fares was filed with the Illinois Commerce Commission in June. The tariff, as usual, was suspended by the commission pending hearing.

Although the hearing was widely publicized in advance, there was a complete absence of commuter opposition when the proceedings opened.

An interesting aspect of the Burlington's approach to this rate increase is its policy of keeping its commuters informed about impending developments.

Prior to filing a new tariff with the Illinois Commerce Commission, a leaflet entitled, "A Progress Report on your Suburban Service," was prepared. It reviewed the modernization program, comparing the service "then" and "now." It told the commuter . . . "and now we need your help," and outlined the proposed fares. (*See Railway Age*, July 13, 1953, page 17.) On the day the tariff was filed, this leaflet was distributed to the commuters so they would not be caught unaware by the railroad's action.

When the commission authorized the increase on October 28, nearly five months later, the Burlington again reported to its passengers in a letter distributed on trains. The letter also explained the railroad was postponing the effective date on its 46-and 54-ride monthly tickets to November 7 so that regular commuters would not be inconvenienced by having to pay the higher rate on short notice.

This approach is an essential part of the Burlington's policy of winning friends by being a good neighbor to its commuters.

Although the Burlington people are proud of the reputation they have earned among their commuters, they do not consider the suburban service as remarkable, but merely as the reward for careful planning and good management

Management Training on A Short Line

HATCHING QUESTIONS FOR THE BOSS—These South Shore Line supervisors are at the key phase of a specially tailored program.

The Chicago South Shore & South Bend has just completed an extensive training program for its "middle management" group that is in the nature of a precedent for what may be considered a short line. Under the guidance of Purdue University's Technical Extension Division, a four-day "workshop" session was conceived and evolved *by the employees* themselves and presented at the University's Barker Memorial center at Michigan City, Ind.—which is the headquarters of the railroad. At the suggestion of the university, the program was given not just once, but was repeated four times over a two-month period, so that on each occasion the group could be limited to about 20 South Shore "students." This assured active participation by all of them.

The form and content of the program were evolved from recommendations of a special employees' committee set up for the purpose. Its membership consisted of a "middle management" representative from each of the major departments—the chief clerk of the traffic department; the auditor of passenger revenues; the electrical foreman of the shops department; the chief dispatcher; an assistant signal engineer; plus Charles H. Jones, vice-president and general manager, and Walter W. Weber, assistant superintendent of transportation. These two men oversaw, rather than directed, the committee's planning.

THESE WERE THE BASIC LECTURES . . .

"Where Does Our Business Come From?"—William Peterson, vice-president, traffic.

"How Our Business Is Handled"—D. E. Ferner, superintendent of transportation, and Walter W. Weber, assistant superintendent of transportation.

"Maintenance of Way"—F. J. Corporon, superintendent of way and structures.

"Maintenance of Equipment"—M. A. Aldrich, master mechanic.

"Our Organization and Financial Structure"—E. H. Utley, vice-president and comptroller.

"Top Management Problems"—C. H. Jones, vice-president and general manager.

What the committee came up with was not a "lecture course." Primarily it was a discussion program. It was so arranged that everyone had a chance to participate. They asked (and got) the heads of each major department to give a talk about their department; how it compares with those of other railroads; and how it works with other departments on the South Shore. Following each talk, the students would split into two groups of ten men or less, and retire to other rooms where they spent an hour or more discussing what they had heard.

Discussions Frank and Open

No one else was allowed in the room except a moderator from the Purdue faculty. His primary task was to see that the discussion did not wander from the subject and that out of the discussion would come a group of questions to be asked of the speaker in a 30-min. question and answer session that followed. Because no railroad "brass" was present, the men felt free to discuss matters which, under other circumstances, they would hesitate to mention—petty grievances, suggestions they were perhaps too timid to make on their own, etc. The Purdue representatives took care to remain "neutral" during these discussions, limiting their duties to encouraging the timid, helping to sum up ideas and, in general, provoking frank and open discussion. Professor Robert F. Schwarz, director of the center, and Virgil Sams of the university's technical extension division moderated these private sessions. Their experience with the discussion technique of teaching put South Shore men quickly at ease.

The entire program centered about these discussion sessions. They gave the men an opportunity to digest the talk they had just listened to—but in their own words. They provided (through formation of questions) a chance to fill vacant areas of knowledge with information "straight from the horse's mouth," and they gave the Purdue faculty a chance to evaluate the effectiveness of the entire program. Sometimes it proved a bit of a task to halt these enthusiastic sessions in order to go on with the next phase of the program—the question and answer session.

Returning to the main class room, the two groups reunited to pose their questions. These were asked, not by

DISCUSSION GROUPS were kept small and frequently reshuffled so all could get acquainted. In what was once the pantry of the old John Barker home, these men are evolving a series of questions.

THESE QUESTIONS WERE PROVOKED . . .

"How are we regarded by other railroads?"

"What corrective measures are being taken to prevent rough handling of cars in switching?"

"Can our railroad join the grain door pool at Chicago?"

"What are the possibilities of the next Congress repealing the 15 per cent transportation tax?"

"Will the South Shore ever return to piggyback?"

"What are we doing to take tonnage away from trucks?"

"Is there any plan for schooling trainmen in public relations?"

"What training is being given carmen to prepare them for future promotion?"

"Why not hook up our radio communication system with our Chicago traffic office?"

"To what extent will the piping of coal affect railroad tonnage?"

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the person who might have posed them in the discussion session, but by a selected spokesman for each group. This was an important arrangement because it eliminated any personal stigma that might be attached to a "loaded" question (which many of them admittedly were).

Every question received an answer. In some instances —where statistical material was involved—the answers were in proportional, rather than quantitative terms. But these are currently being followed up and every member of the four groups will ultimately receive a more detailed written answer from the appropriate officer. The plan is to prepare a printed handbook of the proceedings in which all of the questions (other than obvious duplicates) will be answered and which will also contain the talks by the various department heads. For this purpose, the proceedings of the fourth presentation of the course were recorded.

Because of its size, South Shore supervisory officers perhaps were somewhat more familiar with overall operations of their railroad than would be kindred officers of a major trunk line. And, by the same token, they were somewhat better acquainted with one another. Nevertheless, the road's top management felt that there was a definite need to "strengthen the ties." The problem was: How.

Actually, a base ingredient was already at hand. The South Shore, in common with other industries and commercial enterprises in Michigan City, has during the past five years observed "Business Education Day" in cooperation with the U. S. Chamber of Commerce and the local Michigan City chamber. Under this program (*Railway Age*, May 7, 1951, page 67), local school teachers are given a holiday to visit local industries and commercial establishments. Every year they spend an entire day with a different organization. They not only tour its plant or facilities but they also hear talks by top officers who describe operation of their organization and how it fits into that particular industry's nationwide activities.

A program which South Shore officers worked out for Michigan City teachers proved so popular that the teachers had to set up their own seniority system to select who could attend. The day-long program was presented largely on the property and thus did not go long unnoticed by employees. Before long, it became obvious that they were as keen to learn about the South Shore and the railroad industry in general as were the teachers. So when the decision was made to prepare this management training program, much of the basic material—including a loose-leaf textbook of basic facts, maps, charts, departmental forms, etc.—was taken directly from that originally compiled for the teachers.

The University was already working with the Pennsylvania on a training program for yardmasters and trainmasters at the main campus at Lafayette. A visit to one of these Pennsylvania sessions convinced Mr. Weber that the course would be more effective under administration of the university and also that there was much benefit to be derived from having the affair conducted off of railroad property. To this both the employees' committee and top management agreed. It was finally arranged that the program would be held in Michigan City at the university's recently acquired Barker Memorial center. For the men, this arrangement proved very convenient as Michigan City is midpoint on the railroad, and all but a few were able to return home each night.

Setting an Easy Pace

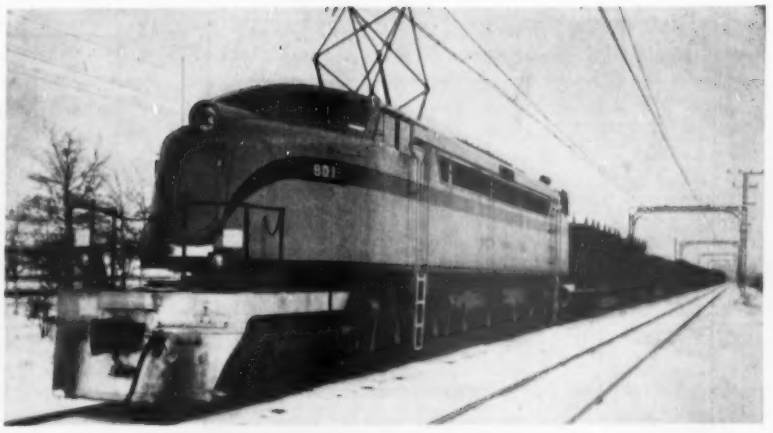
The course was characterized by a minimum of paper work. Emphasis was on discussion. With the exception of one dinner session, all of it was conducted during normal working hours. Attendance was voluntary, but virtually 100 per cent of those invited took the complete course. Representatives of all labor groups on the property were also invited to attend and their response was almost perfect, too.

Reaction to the course was carefully measured by the university. At the beginning of each day, group members

THE SOUTH SHORE . . .

FREIGHT SERVICE accounts for approximately 50 per cent of the Chicago South Shore & South Bend's total gross operating revenue which, in recent years, has hovered in the neighborhood of the $7-million mark. The road is extensively equipped for radio communication (note antennas on both the locomotive and the passenger train in the illustrations at the right). The South Shore's latest undertaking is a 4.3-mile line relocation project at East Chicago, Ind., which will speed both freight and passenger services while substantially reducing maintenance costs. A description of this project, which is expected to cost some $1,544,000, was published on page 12 of the November 9, 1953, issue of *Railway Age*.

Though not a large road, the South Shore is, nonetheless, an exceedingly busy one. Hourly passenger service is maintained between South Bend, Ind., and Chicago (using Illinois Central electrified suburban trackage and a subsidiary, the Kensington & Eastern, west of the Illinois-Indiana state line at Hammond, Ind.). Additional half-hourly service for passengers is provided between Gary, Ind., and Chicago. The road has no branch lines other than a motor coach extension to Benton Harbor, Mich.



were asked to set down their opinion of the previous sessions—what subjects might be eliminated, altered or expanded. Many workable suggestions thus received were incorporated into the remaining programs.

One of these, oddly enough, had nothing to do with the course itself. The men asked for a tour of the university's center which was at one time the home of John Barker, president of Haskell & Barker Car Co.—Michigan City's No. 1 industry for over a century and now part of the Pullman-Standard Car Manufacturing Company. This imposing Elizabethan homestead was a showplace in its day and the university has attempted to preserve all of the 1905-vintage furnishings of its main floor rooms where the South Shore classes were held. In response to the suggestion, the university quickly rearranged the work schedule so that succeeding groups could tour the old home. They learned that it contains 38 rooms, 10 baths and 7 fireplaces; that railroad rails were used in many places as supporting beams; and that among its turn-of-the-century innovations was an air conditioning system and a very advanced system of electrical circuits and fuses.

Results of the Experiment

At the close of the course, and just before the men received certificates of completion from the university, they were asked to fill out a questionaire which was designed, not to test how much they had learned, but to see what they thought of the course.

To the question: "What is the most important value you received from this course?", the almost universal answer was: "Meeting employees of other departments and gaining an understanding of their work." Possibly the next most common reaction was a feeling of new confidence in the road's top management. Many said that the course removed all doubt of the ability and sincerity of company officers and of management's effort to improve the position of the railroad. They seemed to like the officers' willingness to give honest answers to any and all questions. And they seemed to like the opportunity to express their own opinions—even critical ones —without any resulting friction.

There were hardly any changes suggested for either the method of the course or its content. A few wanted more attention directed to the company's motor coach operations and others felt that visual aids might have been employed more extensively. Complaints were few—the most persistent one being that the men were too well fed at the luncheons and dinner!

But one man summed it up this way:

"The entire series of talks seems to be a presentation of our railroad to the individual. Perhaps something should be said about the obligation of the individual to the railroad in fostering its prosperity and continued success."

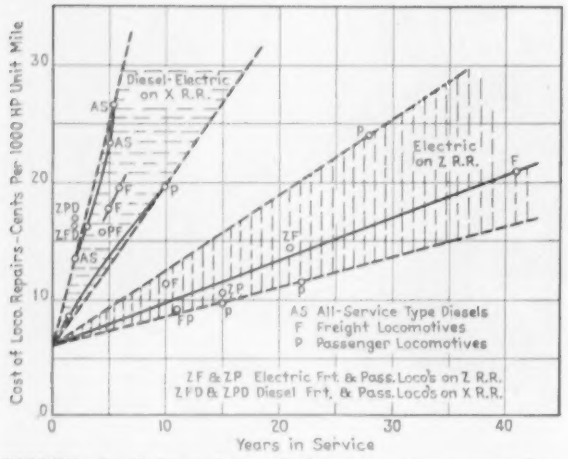


FIGURE 1—Relationship of repair costs to age for straight electric and diesel-electric locomotives.

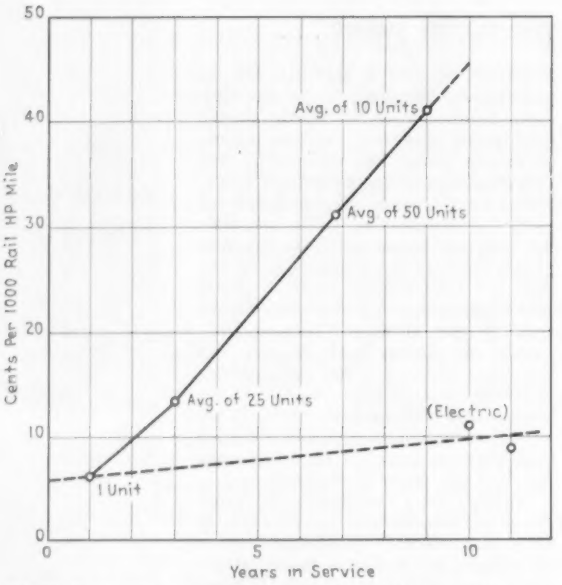


FIGURE 2—Cost of diesel-electric road locomotive repairs classified according to locomotive age. All of the units represented are of the same size and make and are in service on one railroad. The data shown here was accumulated in 1950 and 1951.

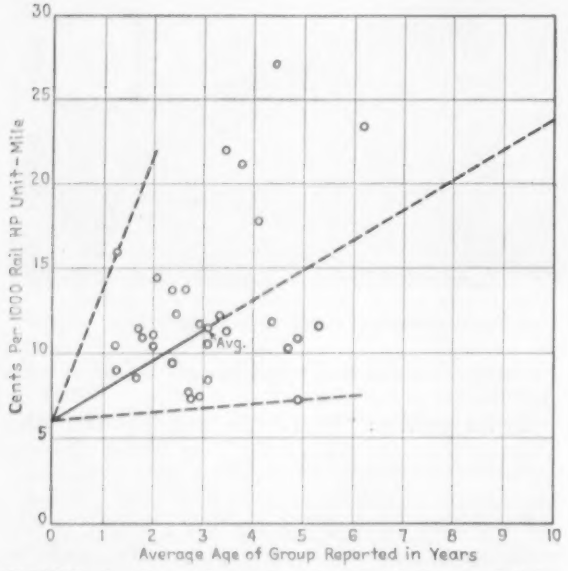


FIGURE 3—Cost of repairs for diesel-electric freight locomotives by groups of varying average age.

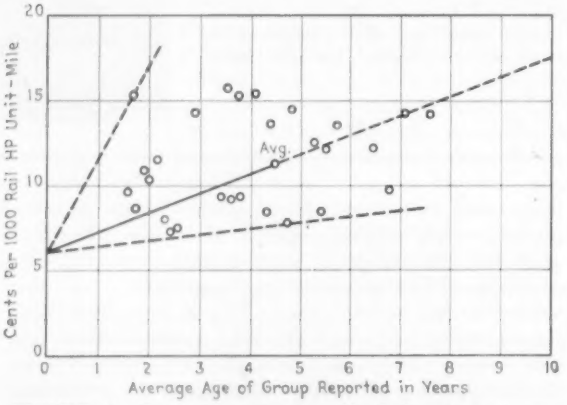


FIGURE 4—Cost of repairs for diesel-electric passenger locomotives by groups of varying average age.

What Price Diesel Maintenance?

A rearrangement of data now available suggests to two engineers that current methods of accounting do not give a true picture of rising maintenance costs

Some proposals to make diesel locomotive cost figures more valuable, in their opinion, are included in a paper called "A Reappraisal of the Economics of Railway Electrification," presented by H. F. Brown and R. L. Kimball, both of Gibbs & Hill, Inc., consulting engineers, at the winter general meeting of the American Institute of Electrical Engineers, held in New York, January 18-22.

It is the authors' contention that railroads should not lose sight of the potential economics of straight electrification. They point out that such factors as rising costs of liquid fuel and the development of rectifier-type loco-

motives which can operate from a low-cost 25,000-volt, 60-cycle contact system, and employ d.c. motors now in quantity production, are constantly making electrification more attractive.

An outstanding advantage of the electric locomotive is low cost of maintenance. To show how low this cost is, it is necessary to compare it with the cost of diesel locomotive maintenance. The authors' principal contention is that all locomotive maintenance costs rise constantly each year, and that in showing them as cumulative costs, divided by accumulated miles of service, the operator is deceiving himself on day-by-day costs. Such data, they declare, do not show when a locomotive should be retired.

Messrs. Brown and Kimball developed their idea as follows:

Locomotive Maintenance Costs—Electric

"The electric locomotive — a power conversion machine and not a prime mover — has established the record over the past 45 years of operation of having the lowest maintenance cost of any form of motive power yet devised.

"In order that the maintenance costs of locomotives of different weight and capacity and types may be equitably compared, it is necessary to have a common denominator of work performed. One way of doing this is to pro-rate maintenance costs over a unit-mile basis, the unit consisting of 1,000 hp. measured at the rail. Thus, for a 4,000-hp. electric locomotive the maintenance costs per locomotive-mile would be divided by 4 to give the costs for a 1,000 rail horsepower unit-mile.

"On this basis, current costs of maintenance of electric locomotives 40 years old have been investigated and found to be as low as 21 cents per 1,000 rail horsepower unit-miles. Such costs as well as current costs of maintenance of other electric locomotives of lesser age, on two important electrified railroads, are shown in Fig. 1. These costs form a definite slowly rising pattern.

Diesel-Electric Maintenance Costs

"Diesel-electric locomotives are still new. They have not yet had the years of operation that steam or electric locomotives have had. Moreover, they are still being applied in such large numbers each year that it is very difficult to obtain, except in isolated cases, a true picture of the way maintenance costs will rise with the age of the individual unit. Many railroads keep records of maintenance costs simply on an entire class of equipment regardless of age of units. Obviously with a continual influx of new units each year, the maintenance costs of such a class of equipment will be low and will remain low, or rise very slowly. Only when a railroad has become entirely diesel equipped, and has ceased to purchase new equipment in quantities, will it begin to get a true picture of the rate of rise of maintenance costs.

"Furthermore, there is at present a divergence of opinion as to just how such costs should be kept. One set of recently published maintenance costs, covering several years, shows these costs in 'per cent of total operating costs.' Obviously, one has to know just how wages and fuel costs have changed over the same period before the true value of maintenance costs can be found.

"Another proposal has been made that since the diesel engine will need periodic major repairs and replacements, the cumulative costs divided by the accumulated miles of service should be reported for each period between replacements. Obviously, such a record would show eventually only the average cost of repairs over the life, and would not show the true rise, nor the point at which consideration should be given to replacement because of such high costs.

Classification by Age

"Occasionally, it is possible to get maintenance figures for a group of locomotives classified by age. Data are included from authentic records of several railroads which were accessible. Fig. 2 shows costs of maintenance obtained in 1950-1951 of one type of diesel-electric locomotives used in combined passenger and freight service on one railroad, by age groups. All units were of the same make and capacity. All costs were accumulated in the same 12-month period. The unit is reduced to a 1,000 rail horsepower unit-mile, the rail horsepower being taken as 80 per cent of the reported engine horsepower. The rise in costs is startling.

"In Fig. 1 are shown, for comparison with the electric locomotive maintenance costs already referred to, current maintenance costs on another railroad of various types of diesel power, all reduced to the 1,000 rail horsepower unit-mile basis. The comparison speaks for itself. Both railroads operate in nearly the same regional area, and the service performed is comparable.

Comparative Maintenance Costs

"Because these are isolated cases, an analysis has been made of data, unpublished but authentic, compiled by one manufacturer from information furnished by more than 30 railroads, covering the costs of operation and maintenance of diesel-electric locomotives of different manufacture for the year 1951. These data are shown graphically in Fig. 3 for freight service and in Fig. 4 for passenger service. It will be seen that these data cover groups of locomotives of "average age" for each group. The results, as would be expected, are scattering, and lower than the costs shown in Figs. 1 and 2. Nevertheless, the general trends indicate that diesel-electric maintenance, reduced to the same common denominator, for locomotives 10 years of age, will be at least twice the maintenance costs of electric locomotives."

The last mentioned data are further subdivided by the authors to indicate the following:

AVERAGE PERCENTAGE OF TOTAL REPAIR COSTS

	Passenger Per Cent	Freight Per Cent	Yard Per Cent
Engine repairs	33.0	41.6	48.8
Electrical repairs	24.5	29.3	22.1
Other repairs	42.5	29.1	29.1
Total repairs	100.	100.	100.

Accounting Service To Supervisors

By D. B. WOOMER
Assistant Auditor Disbursements
Pere Marquette District
Chesapeake & Ohio

PRIZE WINNING PAPER

This article is based on a paper submitted in the* Railway Age *prize essay contest announced in the September 28, 1953, issue. After consideration of the entries by the board of judges (see* Railway Age, *January 25, page 13), Mr. Woomer's contribution was awarded the $100 prize which was offered for the best paper on the general subject of the relation of the accounting department to the rest of the railroad.

The primary function of a railroad's operating officers is to meet the demands of traffic at the lowest possible cost. In the discharge of this responsibility, they are faced with two major problems. First is what constitutes the optimum road and equipment. This is basically a long-range problem and centers around the question as to what changes, if any, should be made in the existing road and equipment to meet the traffic potential at the lowest overall cost. The second question is how to secure the most effective utilization of existing plant and equipment in the face of current actual traffic demands. This is the short-range problem, centering around how to meet today's traffic demands at a minimum cost.

Although the major burden for the solution of this latter question falls upon the transportation department, it presents an opportunity to the accounting department to make a significant contribution to the road's operating efficiency. It can do this by using the resources at its disposal to create an effective system of control statements for the use of transportation supervisors.

In the constant day-to-day struggle to meet the demands of traffic at a minimum cost, the transportation supervisors are the "shock troops" of operating management. These trainmasters, yardmasters, agents, etc., form the contact between management and the actual operations, or the point of cost incurrence. Every move that is made at the direction of these men has a direct bearing on the operating efficiency of the railroad. The total of their daily decisions forms the largest single force determining how well, and at what cost, the day's traffic demands will be met.

This, then, is the area in which management can expect to exert the greatest influence over costs; it is here that accounting departments should concentrate their cost control service to the operating departments in order to secure the maximum benefits from such activities. Unfortunately, however, the major emphasis on control reporting on the railroads has been directed toward the higher levels of management, leaving this vital area at the cost friction point unguarded and unserviced.

What Reports for Supervisors?

The accounting departments are in a position to make an outstanding contribution to the work of their operating departments, if they will recognize the potentials of this area, and design a system of cost control reports for the use of the transportation supervisory group. What are the characteristics of a control report that will be of use to the transportation supervisors? What changes must be made in accounting procedures to produce such a report?

A sound organizational structure clearly defines the area of responsibility of each member of the organization. Under such a system, there can be no doubt in a supervisor's mind as to exactly what his job is. Similarly, a cost control statement designed for a supervisor must adhere to the limits of this area of responsibility. Failure to cover all of the responsibility area leaves the supervisor with only a partial control tool. A report that goes beyond his area of control without defining and separating the expenses of the control area is no more effective. It still leaves the supervisor without a reliable aid to assist in evaluating and planning his specific activities, which is the primary purpose of a control statement.

Adherence to this principle of "accounting by responsibility" will, in some instances, require divergence from the prescribed Interstate Commerce Commission accounting classifications. The cost of inspecting and lubricating cars is a case in point. Responsibility for the incurrence of this expense, or responsibility for determining whether or not the expenditure is to be made, rests entirely with the mechanical department. It must follow that this is the only department that can exercise any degree of control over this expense. However, under the I.C.C. Classification of Accounts, this expense is charged to the transportation department, which can exercise no control over its incurrence. Responsibility accounting would require charging this expense to the mechanical department, the only place where it could be subjected to effective control.

This then becomes the first requisite for supplying the transportation supervisory forces with an effective control tool. Expenses must be accumulated and reported on a strict responsibility basis.

A cost statement has value as a control tool only if the

FAMILIARITY BREEDS SUCCESS

If the accounting department is to accrue and report expenses on a responsibility basis, its members must be thoroughly familiar with the organization of the transportation department. Organizational charts may be of some help, but what is really required is actual personal contact with members of the transportation department. Visits should be made to yards, stations, dispatchers' offices and division offices, and actual operating conditions observed first hand. This is the only way that members of an accounting department can expect to gain the intimate knowledge of the transportation organization required for true responsibility accounting. When this knowledge has been secured, assigning location or cost responsibility codes for the accumulation and reporting of expenses becomes a relatively simple task.

information shown on it is of use to the supervisor in evaluating current conditions, and in determining a proper course of action in view of these conditions. Its usefulness is, therefore, directly related to how well it reflects actual current conditions. The ideal, of course, would be to keep constantly before the supervisor an accurate picture of actual conditions. It is impractical to hope to achieve this ideal in the foreseeable future. However, every effort must be made to approach it as closely as possible by supplying the supervisory forces at frequent intervals with a statement as closely related to actual conditions as possible.

This objective can be reached by reducing to an absolute minimum the elapsed time between the incurrence of expenses and the reporting of them to the supervisory forces. If this period is kept at a minimum, there is a reasonable chance that the report will approximate actual conditions at the time of its receipt. As this period is allowed to lengthen, the chances of the report being related to actual conditions at the time of its receipt are correspondingly less. Without this close relationship between reported and actual conditions, the report is of little or no value. Thus, the second requisite for an effective transportation supervisory control report is that it be issued frequently with a minimum of delay. A daily report available on the following day would seem to be a realistic goal.

How Much Precision?

If accounting departments are going to attain this goal, they must be prepared to surrender some degree of the precision that is so symbolic of the accounting profession. This is not to deny that the complete, concise, accurate recording of expenses has a legitimate place in accounting; but to point out that such precision is of doubtful value in the field of control reporting.

American industry has long learned that a prompt report of the most significant cost elements is far more valuable as a control tool than a later, all-inclusive statement. Deferring the issuance of control reports until the very last item of expense is duly recorded detracts from, rather than adds to, the value of a control report. With the cooperation of the operating groups, accounting departments must determine the most significant cost elements in the various transportation activities, and then focus their attention on getting these significant facts into the hands of the control group as quickly as possible.

The mechanization of clerical procedures, and their integration with a modern communications system, will also contribute toward the prompt issuance of control reports. During the postwar years substantial progress has been made by many railroads in the mechanization of clerical procedures. Too often, however, the job has been a spotty one, leaving a combination of the most modern business machines and techniques with the most outrageously antiquated clerical procedures.

Mechanization of the entire report production line is required if the essential speed in control reporting is to be achieved. This applies not only to the mechanization of the procedures in the accounting office, but the integration of these procedures with a modern communications system, to insure the prompt receipt and issuance of the data. It is only when this has been accomplished that we can expect the accounting department to realize its full potential of prompt, frequent control service to the operating deparments at a reasonable cost.

Control service to the transportation departments should not, however, end with the issuance of frequent, accurate control reports. The report must also include some "benchmark" or standard against which the supervisor can evaluate his performance. These standards might be likened to an alarm system set to warn the supervisor when his operation is headed for trouble and corrective action is needed. The more sensitive this alarm system is to changes in conditions, the more effective the report is as an instrument of control.

The most effective means of measuring the efficiency of any activity, of course, is to measure output against effort. In the instance of transportation operations, output is usually measured in terms of physical activity, i.e., train-miles, cars handled, waybills handled, etc. On the other hand, one of the most reliable measures of effort or input is the dollar cost of the physical activity. From this it becomes obvious that an ideal means of measuring transportation activity is to relate the activity to its cost.

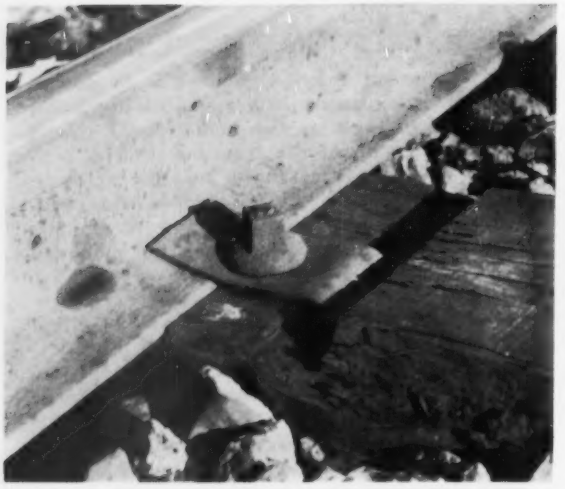
A Need for Analysis

Unforunately, however, the accumulation and analysis of "statistical" or "physical" data on the railroads has generally been the function of the operating departments, while the accounting departments have concerned themselves primarily with dollar figures. As a result, sufficient attention has not been given to this problem of relating physical activity to dollar costs. Some measures of this nature have been developed, but they are not sufficiently sensitive to changes in the volume of physical activity to be of real use for control purposes. This lack of sensitivity is due to the fact that they are derived from total costs and, therefore, carry with them the assumption that all cost elements have the same correlation to physical activity.

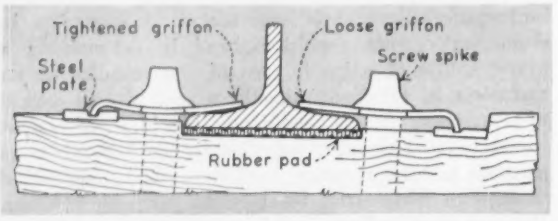
What is required is a careful analysis of both the physical and accounting data as a single body of facts,

(Continued on page 86)

NEW STANDARD TRACK construction of the French National Railways includes continuous welded rails supported by rubber tie pads on metal and concrete ties.



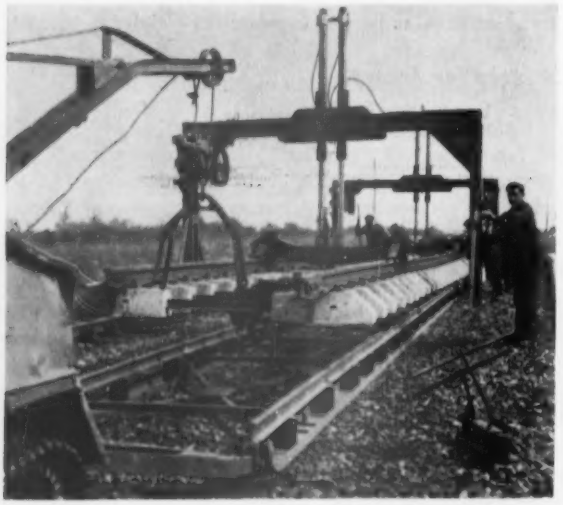
"ELASTIC" FASTENINGS are also used on wood ties dapped to receive the rubber tie pads and rail as well as plates which support one end of the rail clips.



FASTENING ASSEMBLY showing rail clips (griffons) in both loose and tightened positions. Rubber tie pad is grooved, permitting greater elasticity with longer wear.

"Elastic" Track Used in France

New design, using either wood or concrete and steel ties, substitutes a rubber pad for the conventional steel tie plate



RAIL LAYING is done with special machines. Track is shipped in complete assemblies, 60 to 80 ft. long.

As a result of extensive research engineers of the Technical Service of the French National Railways have developed a type of track design that departs in important respects from the construction now generally used in that country. The new design is for a maximum axle load of 23 tons at speeds in excess of 100 m.p.h. It is comprised of T-section rail, welded into lengths up to 2,650 ft., bearing on grooved rubber tie pads placed directly on ties of either wood or a combination of metal and reinforced concrete, and held in place by so-called "elastic" fastenings, consisting of rail clips (griffons) which bear at one end on the rail flange and at the other on a small steel plate embedded in the surface of the tie. With wood ties the griffons are fastened to the ties by screw spikes. With concrete ties they are fastened by bolts.

In the earlier phases of the development of this design, solid rubber tie pads were used under the rail and were dapped into the surface. But it was found that, since the rubber could not expand, it soon became permanently deformed and lost its elasticity. When grooves were

introduced in alternate rows on both surfaces of the rubber pad, they enabled the rubber to expand five times as much as the solid pad of the same thickness when under rail load.

The rail clips are made from chrome-manganese spring steel and are held in suspension between the flange of the rail and a small steel plate which is dapped into the surface of the tie (see diagram). When the screw spike is tightened, the rail is pressed into the rubber pad with considerable force. Together the clip and the rubber pad are said to provide a damping effect on the vertical movements and vibrations of the rail without transmitting them to the tie.

The damping effect of this design is thought to be of considerable importance by engineers of the French Railways who have satisfied themselves through research and acceleration tests that the vibrations produced in the rails and ties by the wheels of a passing train are one of the primary causes of track deterioration. Their tests are reported to have revealed that the vibrations instigated by the passage of a steam locomotive at 70 m.p.h. have a frequency of about 750 to 1,100 per sec., resulting in loosening of conventional fastenings.

Using the new design the French engineers do not hesitate to lay rail without the use of tie plates on tangent track, or on the longitudinal girders of bridges. On curved track a steel tie plate, with its ends pressed up to take side thrust, is used under the rubber pad.

The concrete tie as now adopted by the French National Railway is a far cry from the earlier designs. Originally reinforced concrete ties were made in the shape of the conventional wood tie but they did not stand up well under traffic. Prestressed concrete ties were also used but these too did not endure the fatigue of repeated bendings.

The present design of the elastic fastening takes into consideration the different movements and vibrations of opposite rails. It consists of two reinforced-concrete blocks, one for each rail, joined together by a solid piece of rail steel embedded in the concrete. The two blocks are practically independent while under load, the metal tie bar taking up the differences in stresses.

In France both concrete ties and wood ties are used with the elastic fastenings. Concrete ties have not been used on sharp curves nor are they used at highway crossings. The wood ties, 9 in. wide, are used at the rate of 1,800 per mile and cost 1,800 francs, while the concrete ties, 12 in. wide, are installed at the rate of 2,600 per mile and cost 3,000 francs. Where concrete ties are used in electrified territory, small insulating fiber pads are inserted under the rail clips.

NEW MOTIVE POWER on the Fort Dodge, Des Moines & Southern may ultimately end the Iowa road's . . .

ALL ELECTRIC OPERATION which has spanned 42 years. Conversion of branch lines comes first as another . . .

Electric Line Goes Diesel

The first unit of a projected fleet of diesel locomotives has been delivered to the Fort Dodge, Des Moines & Southern by the General Electric Company. One of three ordered last fall (*Railway Age*, November 23, 1953), the 70-ton locomotive heralds the gradual elimination of straight electric power which was introduced by the road in the year 1912. Prior to that time steam locomotives were used.

An unusual feature of the "de-electrification" plans worked out by President Arthur P. Wheelock and his staff is that the diesel power probably will be used for the road's switching services and branch lines first. The thinking behind this is that all-electric operation requires a considerable investment in fixed property—line poles, trolley wire, substations, etc., and that where these facilities are but lightly used, they should be removed and disposed of first. If these plans are followed, all-electric freight service will continue on the road's 84-mi. main line for some time after it has been discontinued on the four branches (whose aggregate mileage is nearly 60). In all likelihood, additional diesel locomotives will have to be ordered before the more modern of the road's all-electric units will be retired from main-line freight service.

Betterment Program—The use of diesel power is but one step in a general improvement program which the road has under way. It recently purchased 200 new box cars; completed a new "high line" to prevent interruption by flooding of the Des Moines river; embarked on a program of laying new 90-lb. rail; announced plans for a new communications system, a general repair program and a new bridge inspection program.

WITH ACCESS CUT OFF BY HIGHWAY . . .

Conveyor Delivers to Trackside

The Eckhart Seed Company, which processes commercial seed and markets bean and pea seed, was not too inconvenienced by having to cart grain bags and other shipments the short distance from its plant on one side of highway Route 101 to its receiving and loading dock adjoining the Southern Pacific tracks at Salinas, Cal. But the highway is one of two principal roads between San Francisco and Los Angeles and the increasingly heavy traffic on this coastal route forced the California State Division of Highways to lay plans for making this a four-lane divided freeway. To Eckhart Seed this development meant that its service road would be fenced off from the freeway on either side, requiring that shipments be sent by truck at least a quarter of a mile down one side of U. S. 101 to an established intersection road and then returned on the other side to the trackside dock—a half-mile trip each way.

Eckhart Seed did not want to rebuild its plant on the other side of the highway, nor did the Southern Pacific want to lose access to freight shipments or be forced to make deliveries by truck. At the same time the Division of Highways would not permit interruption to the flow of traffic on the freeway.

A solution was suggested by the district highway engineer who proposed that an underground conveyor, 198 ft. long, be constructed to connect the seed company plant with the trackside dock. This suggestion was accepted by the railroad, the seed company and the highway department, and it was decided to install a 90-in. Armco Multi-Plate pipe, using 12-gage sections for the sides and top and 8-gage sections for the bottom.

The tunnel was constructed in two parts. In 1951 the highway department added two new lanes for traffic in one direction, while retaining the existing highway temporarily for carrying traffic in the opposite direction. While the new half was under construction, the contractors installed the first 80-ft. section of the conveyor tunnel.

In 1952 the older highway was rebuilt, the grade being raised and a new drainage system installed. During this operation, another contractor installed the remaining 118-ft. section of the tunnel. Eckhart Seed Company then installed the conveyor belt, 30 in. wide by 220 ft. long. It also included elevating extensions from the tunnel exits to the floors of the structures on both sides of the freeway. The motor which operates the belt is reversible so that materials can flow in both directions.

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deserves your consideration because...

IT EXTENDS TIE LIFE

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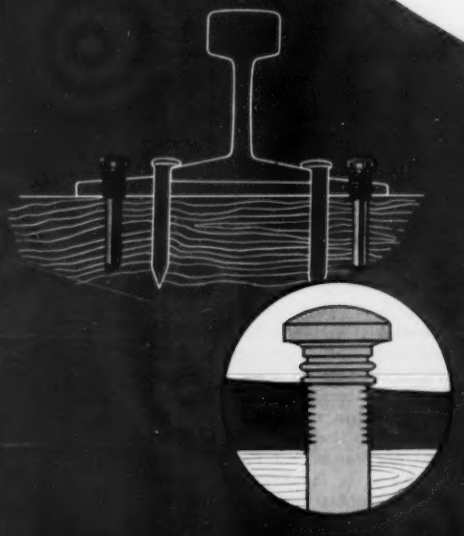
- *BY REDUCING SPLIT TIES*

IT PROVIDES STURDIER TRACK

- *BY MAINTAINING BETTER LINE AND GAGE*
- *BY DEFERRING TIE REPLACEMENT*
- *BY REDUCING LABOR COSTS*



The RACOR STUD securely driven, becomes integral with the tie plate and restricts lateral movement most effectively.

Conclusive tests show a reduction of over 50% in tie wear by the use of the RACOR STUDS.

Low in cost, the RACOR STUD will show a high return through material and labor-savings with sturdier, smoother and safer track.

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I.C.C. Fears Undercut Regulation

Annual report warns Congress about possible impact of "buy-and-sell" activities of "private" truckers, and of threat to rate structure posed by pending trip-lease bill

The Interstate Commerce Commission has warned Congress that "buy-and-sell" arrangements, under which "so-called private carriage is a subterfuge for engaging in public transportation," constitute a "growing menace to shippers and to carriers alike."

It has also warned that its regulatory activities would be seriously handicapped by enactment of the pending bill to end its power to prohibit trip-leasing of motor trucks.

The warnings were embodied in the commission's sixty-seventh annual report which went to Congress January 27. The report, in the usual form, was a 148-page document reviewing commission activities and transport developments from November 1, 1952, to October 31, 1953.

It contained 18 legislative recommendations (*Railway Age*, February 1, page 8). Seventeen of them were repeaters from previous annual reports, and the new one was a proposal that the commission's car-service powers be extended to express companies.

Comments in the report about encroachments by "private" trucking and the threat posed by the trip-lease bill are quoted in accompanying "boxes." Also set out is the commission's comment on the "time-lag" in general rate cases, and on proposals to give carrier managements more discretion with respect to pricing competitive services.

As to the latter, the commission listed "severe intermodal competition" as being "conspicuous" among current transport problems. The report went on to reveal that a study which the commission's staff is "bringing to completion" is intended "to assist in understanding and to some extent in measuring the effects of both reductions and increases" in rates by competing transport agencies.

On the same "conspicuous problem" list the commission also put "the passenger train service deficit, high costs in certain branches of water transportation, the small shipments and express problems, taxes, and coping with employees' demands for higher wages and further 'fringe' benefits."

On the other hand, the commission found "many favorable factors," including the "generally good condition and ample supply of carrier facilities, the modernization of these facilities to reduce costs . . . an abundance of generally good service, and a more general desire to search out and experiment with new ideas or methods."

"Piggybacking," which the commission has under study in a recently instituted proceeding, got only brief and noncommital treatment in the report. Pointing out that this trailers-on-flats method of operation is not new, the commission went on to note that it is currently receiving "some further application and a great deal of discussion." The report then added:

"Some railroad representatives find in the more general application of this mode of operation an answer

"PRIVATE" TRUCKING IS BECOMING LESS PRIVATE

"Merchandising by motor truck, whether actual or pretended, over long distances is increasing to such an extent that it is becoming a major factor in the transportation of freight between distant points. Manufacturers and mercantile establishments, which deliver in their own trucks articles which they manufacture or sell, are increasingly purchasing merchandise at or near their point of delivery and transporting such articles to their own terminal for sale to others.

"Such transportation is performed for the purpose of receiving compensation for the otherwise empty return of their trucks. Sometimes the purchase and sale is a bona fide merchandising venture. In other cases, arrangements are made with the consignee of such merchandise for the "buy and sell" arrangement in order that the consignee may receive transportation at a reduced cost.

"To an even greater extent, drivers of trucks engaged in transporting exempt commodities in one direction engage in similar transporting of general freight on the return trips. There are also a number of truck-owners engaged in such so-called merchandising exclusively, transporting, in both directions, freight which they have purchased for sale at destination.

"Generally, the 'sale' price of the merchandise is the cost at origin plus an amount equal to or slightly below the transportation charges of authorized carriers, either rail or motor. Usually it is difficult, if not impossible, for the commisson to determine whether such transportation is a bona fide merchandising venture or is a subterfuge intended to provide transportation for hire without the required certificate or permit and, of course, without payment of the transportation tax.

"A large amount of freight which would otherwise move by rail or authorized motor carriers is now being transported by motor truck over long distances under the "buy and sell" arrangements. . . .

"The existence and expansion of this method of transportation is here called to the attention of Congress because of its possible impact on the national transportation policy. . . . It is injurious to sound public transportation. It promotes discriminaton between shippers and threatens existing rate structures. It was to curb such practices that Part II of the Interstate Commerce Act was enacted."

to important railroad problems, as well as collateral advantages, but railroad opinion is divided. Motor carriers, less enthusiastic than the railroad proponents, take the attitude that, among other things, they must be shown that there are real savings involved, that their service standards will not be prejudiced, and that they are primarily highway carriers. There are also questions as to how such operations fit in with the requirements of the Interstate Commerce Act. The movement of trailers on vessels is a kindred development."

In its discussion of "operating efficiency," the commission recalled that its previous annual report had referred to the "hot box problem" as an "important point of attack" for reducing railroad costs and improving safety and reliability of service. "The railroad industry and the manufacturers," the present report acknowledged, "gave considerable attention during the year to diverse means of coping with this problem, including the substitution of roller bearings."

In reviewing the work of its Bureau of Transport Economics and Statistics, the commission said it has long been "fully cognizant of the inaccuracies in our railway accident statistics arising both from misreporting and underreporting of reportable accidents on the part of the carriers." That such inaccuracies continue, the report added, has been "conclusively established by a system of annual checks of the accident reporting records of roads with outstanding records for safety in terms of published statistics, a plan instituted several years ago by the Harriman Safety Awards Committee."

The report's review of traffic and earnings of transportation agencies showed that carriers under commission jurisdiction reported, for the 12 months ended June 30, 1953, gross revenues of $17.9 billion. The railroads accounted for $11.2 billion of this. Private car lines and freight forwarders are not included in the total, but the report said the former had revenues of $229.3 million for the same 12 months, while the gross of the freight forwarders was $93.1 million.

CARRIERS' TIME LAG MAY BE HASTY ACTION TO SHIPPERS

"Reconciliation of the right of the carriers for a prompt determination of their [rate-increase] petitions with the demand of shippers and government agencies to be heard had to be made. We worked this problem out as carefully and fairly as the circumstances permitted.

"One of the methods used in meeting the situation was to issue interim or intermediate orders granting a part of the increases sought . . . . without waiting for the final conclusion of the proceedings before extending any relief. In passing upon the railroads' last petition—the one of March 27, 1953, in Ex Parte No. 175—the commission reduced the hearing time and adopted the practice of issuing an order in advance of the filing of a report explaining the reasons for the decision.

"However, the feeling seems to persist in some quarters that there has been too much delay in the processing of these petitions. Others, upon whose shoulders the burden of paying the increased charges fell, have indicated a feeling that we acted too hastily.

"Of course, in the consideration of this question it is necessary to keep in mind that the country's commerce is far flung; that it is complex and voluminous; that it is conducted under tense competitive rivalries; and, consequently, that the freight-rate structure is intricate and involved and difficult to keep properly balanced and free of unjustified discriminations as the law requires.

"Beginning with the decision of June 20, 1946, and ending with that of August 10, 1953 we authorized 12 general railroad freight-rate increases in interim or final form. In that period 2 increases were authorized in 1946, 2 in 1947, 3 in 1948, 1 in 1949, 2 in 1951, and 1 in 1952. In 1953 we extended from February 28, 1954, to December 31, 1955, the expiration date of the increases authorized in 1952."

TRIP-LEASE BILL PROPOSES TO LEGISLATE "CONFUSION"

"Historically, it has been the presence of unrestricted competition which has caused the greatest confusion in the rate structure. Enactment of H. R. 3203 [the trip-lease bill] would undermine the motor rate structure and recreate the confusion which prevailed prior to the passage of the Motor Carrier Act in 1935.

"Our primary purpose in prescribing the leasing regulations was to assure that the carrier holding operating authority, and not someone else, shall perform the service covered by such operating authority. The specific rules, such as those requiring the giving of receipts for the vehicle . . . prohibiting indiscriminate trip-leasing, and dividing the revenue with the vehicle owner, were designed to assure and prove that the authorized carrier was performing the transportation. Any restriction on our power to obtain such assurance will handicap effective regulation of interstate transportation."

CAUTION AGAIN "THE WORD" ON MANAGERIAL DISCRETION

"During the year there has been additional discussion of proposals looking to a number of basic changes in transportation regulation. These proposals involve change in certain legislative standards to overcome what the proponents regard as impediments to the exercise of proper managerial discretion. . . . The thought has been expressed by persons speaking in behalf of the railroads that greater freedom in ratemaking is essential if railroad rates are to reflect inherent advantages . . . .

"The need is noted, however, for a more extensive factual basis for implementing such a program. We see no reason to change the comment on this proposal which we made in our last report: 'It is obvious that a substantial change in congressional policy, particularly as it relates to intercarrier competition in its bearing on the public interest, is presented by this type of proposal, and that a more searching analysis of the possible advantages and disadvantages, and of the implications of such a change, must be made than any which thus far have come to our attention.'"

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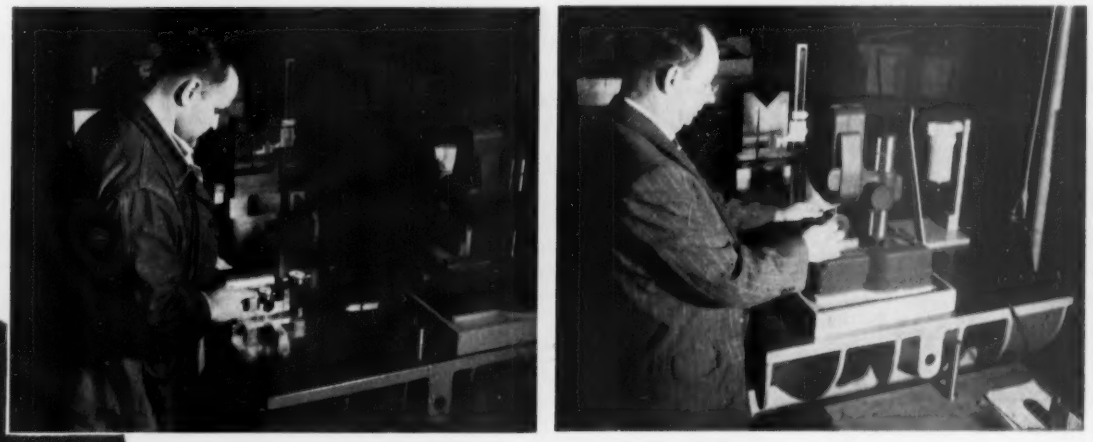
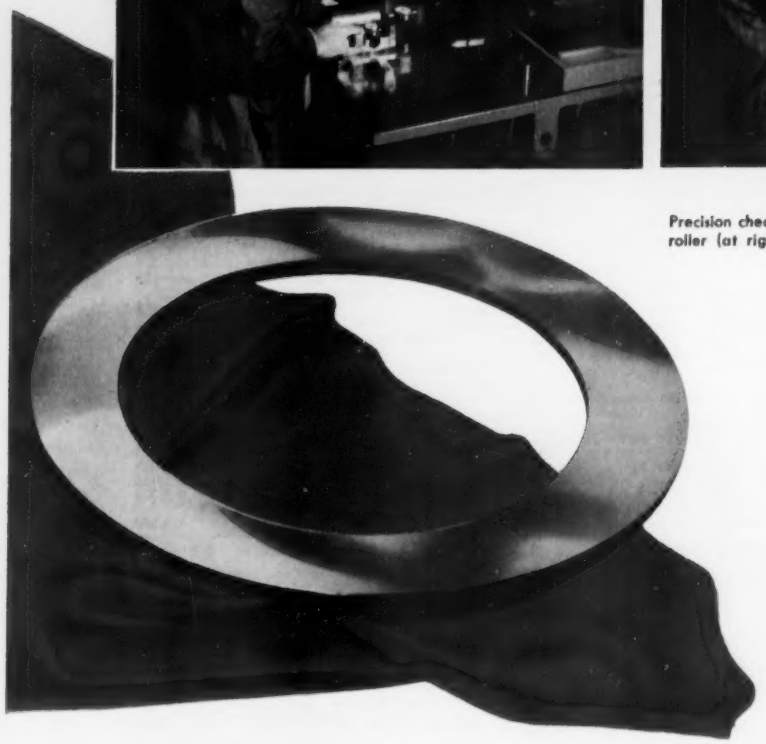


Precision checking a fuel pump roller guide (at left) and a fuel pump roller (at right). All Baldwin parts receive equally rigid inspection.



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Organizations

(*Continued from page* 18)
tion's business was drawn by R. E. Clark, manager of the Closed Car Section of the A.A.R.'s Car Service Division. He predicted that, after the first quarter, carloadings would improve "because the economic pulse of the nation is strong." While the year may not compare with 1953—"the best in history"—it will probably compare favorably with 1952, he said.

"An appalling number" of dirty cars were released by consignees in the Twin Cities area, according to a survey by the board's Car Efficiency Committee. O. W. Galloway, of Pillsbury Mills, Inc., retiring chairman of the committee, said that, at his own request, railroads of the area tabulated their car cleanings for a six-month period; they handled 14,568 cars on their cleaning tracks. "We point this out to show what can and should be done by shippers and receivers to improve car supply," he said.

The board reaffirmed its previous stand calling for repeal of the federal transportation tax; voted to pass over the regular April meeting in favor of concentrating on regional Perfect Shipping meetings to be held throughout board territory; and set Duluth and July 29 as the time and place for its next meeting.

Rail-Trailer Chief to Talk On Piggyback Developments

Eugene F. Ryan, president of the Rail-Trailer Company, will address members of the College of Advanced Traffic's alumni association in Chicago February 16. The meeting, to be held in the LaSalle Hotel, at 8 p.m., will be open to the public. Mr. Ryan has agreed to follow his talk with a general question-and-answer session on "piggyback."

T. J. Boring, general foreman, M.C.B. clearing house, Pennsylvania, will discuss 1954 A.A.R. interchange rules at a meeting of the **Eastern Car Foreman's Association,** at 7:45 p.m., February 19, in the Engineering Societies Building, New York.

A mee ing of the **Traffic Club of Pottsville,** to be held February 11 in the Necho Allen Hotel, Pottsville, Pa., has been designated "Railroad Night." Rev. Clarence Rahn will be principal speaker.

The **Traffic Club of Denver** will hold its annual meeting and election of officers February 25, in the quarters of the Denver Chamber of Commerce.

List of Meetings and Conventions appears on page 90.

Securities

Washington & Franklin.—*Bond Extension.*—Division 4 of the I.C.C. has authorized this company to further extend, from January 1, 1954, to January 1, 1966, the maturity date on $378,000 of first mortgage bonds. Property of the W&F is leased by the Western Maryland, and Division 4 authorized the latter road to guarantee principal and interest payments on the extended bonds. The bonds will be redeemed from present holders, then extended and resold to the Monumental Life Insurance Company. The interest rate will be cut to 4 per cent from 4¼ per cent.

Applications

ILLINOIS CENTRAL.—To assume liability for $6,000,000 of series "38" equipment trust certificates, to finance in part 50 diesel units costing an estimated $8,402,760.

	Description and Builder	Estimated Unit Cost
2	2,400-hp. passenger locomotives (Electro-Motive Division, General Motors Corporation)	$256,500
48	1,750-hp. road-switchers (General Motors)	164,370

The certificates, dated March 1, would mature in 30 semiannual installments of $200,000 each, beginning September 1, 1954. They would be sold by competitive bidding, with the interest rate to be set by such bids.

LOUISVILLE & NASHVILLE.—To assume liability for $1,995,000 of series M equipment trust certificates, the second and final installment of

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 126 reports (Form IBS) representing 130 steam railways

(Switching and Terminal Companies Not Included)

Income Items	United States For the month of September 1953	1952	For the nine months of 1953	1952
1. Net railway operating income	$99,941,786	$121,311,183	$845,430,753	$735,326,361
2. Other income	21,017,639	19,310,052	170,497,080	160,497,121
3. Total income	120,959,425	140,621,235	1,015,927,833	895,823,482
4. Miscellaneous deductions from income	3,892,944	4,192,790	35,391,217	36,630,056
5. Income available for fixed charges	117,066,481	136,428,445	980,536,616	859,193,426
6. Fixed charges:				
6-01. Rent for leased roads and equipment	6,302,731	6,359,334	56,081,276	57,935,626
6-02. Interest deductions[1]	27,153,143	27,735,260	244,423,036	239,645,595
6-03. Amortization of discount on funded debt	249,991	252,314	2,251,271	2,242,623
6-04. Total fixed charges	33,705,865	34,346,908	302,755,583	299,823,844
7. Income after fixed charges	83,360,616	102,081,537	677,781,033	559,369,582
8. Other Deductions	2,867,238	2,986,962	25,934,798	26,689,764
9. Net income	80,493,378	99,094,575	651,846,235	532,679,818
10. Depreciation (Way and structures and Equipment)	42,493,759	41,154,863	375,693,197	360,763,162
11. Federal income taxes	56,400,565	73,958,476	480,207,478	420,789,001
12. Dividend appropriations:				
12-01. On common stock	17,410,173	19,817,615	191,149,306	166,806,358
12-02. On preferred stock	2,983,279	2,909,587	57,608,742	53,619,868
Ratio of income to fixed charges (Item 5÷6—04)	3.47	3.97	3.24	2.87

Selected Expenditure and Asset Items	United States Balance at end of September 1953	1952
17. Expenditures (gross) for additions and betterments—Road	$285,765,250	$278,785,612
18. Expenditures (gross) for additions and betterments—Equipment	646,362,392	719,701,245
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	454,787,803	483,169,813
20. Other unadjusted debits	94,638,227	84,976,851
21. Cash	917,455,641	916,360,526
22. Temporary cash investments	1,010,091,454	885,680,328
23. Special deposits	78,835,278	126,657,218
24. Loans and bills receivable	3,342,522	822,622
25. Traffic and car-service balances—Dr.	66,323,635	67,652,198
26. Net balance receivable from agents and conductors	183,109,216	183,574,693
27. Miscellaneous accounts receivable	370,602,853	365,050,425
28. Materials and supplies	834,033,116	872,614,664
29. Interest and dividends receivable	14,171,100	14,969,564
30. Accrued accounts receivable	235,780,235	231,065,147
31. Other current assets	34,728,805	37,016,552
32. Total current assets (items 21 to 31)	3,748,473,855	3,701,463,937
Selected Liability Items		
40. Funded debt maturing within 6 months[2]	$196,952,927	$232,615,445
41. Loans and bills payable[3]	2,717,542	4,642,955
42. Traffic and car-service balances—Cr.	114,724,352	112,201,883
43. Audited accounts and wages payable	503,801,234	512,276,727
44. Miscellaneous accounts payable	218,414,061	218,387,408
45. Interest matured unpaid	40,589,633	41,676,798
46. Dividends matured unpaid	20,186,465	21,265,871
47. Unmatured interest accrued	76,301,221	80,611,855
48. Unmatured dividends declared	18,104,638	20,571,262
49. Accrued accounts payable	229,732,490	213,128,590
50. Taxes accrued	912,671,747	875,723,626
51. Other current liabilities	94,243,987	158,465,733
52. Total current liabilities (items 41 to 51)	2,231,487,370	2,258,952,708
53. Analysis of taxes accrued:		
53-01. U. S. Government taxes	692,380,308	654,467,461
53-02. Other than U. S. Government taxes	220,291,439	221,256,165
54. Other unadjusted credits	287,145,469	275,441,323

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.
Subject to revision.

a $9,645,000 issue (*Railway Age*, August 10, 1953, page 17). The entire issue is being used to purchase 1,750 freight cars costing an estimated $12,056,250. This final installment would be applied toward 250 ore cars. The certificates are dated as of August 15, 1953. The present installment, to be sold by competitive bidding, would mature in 15 annual installments of $133,000 each, beginning August 15, 1954.

Authorizations

MISSOURI PACIFIC.—To assume liability for $3,000,000 of series WW equipment trust certificates, to finance in part 24 diesel units costing an estimated $3,833,016 (*Railway Age*, December 28, 1953, page 62). Division 4 approved sale of the certificates for 99.224 with interest at 3⅛ per cent—the bid of Blair, Rollins & Co. and one associate—which will make the average annual cost of the proceeds approximately 3.27 per cent. The certificates, dated January 15, will mature in 15 annual installments of $200,000 each, beginning January 15, 1955. They were reoffered to the public at prices yielding from 2.35 to 3.25 per cent, according to maturity.

VIRGINIAN.—To assume liability for $4,200,000 of series D equipment trust certificates, to finance in part 25 diesel units costing an estimated $5,305,931 (*Railway Age*, December 28, 1953, page 62). Division 4 approved sale of the certificates for 99.53, with interest at 2¾ per cent, which will make the average annual cost of the proceeds to the road aproximately 2.8 per cent. Winning bid for the issue was submitted by Kidder, Peabody & Co. and four associates. The certificates, dated February 1, will mature in 15 annual installments of $280,000 each, beginning February 1, 1955. They were reoffered to the public at prices yielding from 1.85 to 2.9 per cent, according to maturity.

WESTERN MARYLAND.—To assume liability for $4,830,000 of series R equipment trust certificates, to finance in part seven diesel units and 750 freight cars costing an estimated $6,045,885 (*Railway Age*, December 28, 1953, page 62). Division 4 approved sale of the certificates for 99.4433, based on interest at 3 per cent, which will make the average annual cost of the proceeds approximately 3.11 per cent. Winning bid for the issue was submitted by Halsey, Stuart & Co. The certificates, dated December 15, 1953, will mature in 15 annual installments of $322,000 each, beginning December 15, 1954. They were reoffered to the public at prices yielding from 2.25 to 3.1 per cent, according to maturity.

Dividends Declared

ALABAMA & VICKSBURG.—$3, semiannual, payable April 1 to holders of record March 5.

ATLANTA & CHARLOTTE AIR LINE.—$4.50, semiannual, payable March 1 to holders of record February 19.

CLEVELAND & PITTSBURGH.—7% guaranteed, 87½¢, quarterly; 4% guaranteed, 50¢, quarterly; both payable March 1 to holders of record February 10.

ERIE.—$5 preferred, $1.25, quarterly, payable March 1, June 1, September 1 and December 1, to holders of record February 10, May 13, August 13 and November 12, respectively.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—$1, quarterly, payable March 1 to holders of record February 9.

NORFOLK & WESTERN.—75¢, quarterly, payable March 10 to holders of record February 11.

PEORIA & BUREAU VALLEY.—$2.12½, payable February 10 to holders of record January 29.

READING.—4% 1st preferred, 50¢, quarterly, payable March 11 to holders of record February 18.

VICKSBURG, SHREVEPORT & PACIFIC.—common, $2.50, semiannual; 5% preferred, $2.50, semiannual, both payable April 1 to holders of record March 5.

Security Price Averages

	Feb. 2	Prev. Week	Last Year
Average price of 20 representative railway stocks	61.40	61.52	69.64
Average price of 20 representative railway bonds	93.41	93.26	95.20

Labor & Wages

Carriers' Non-Op Plea Denied by Federal Court

Just at press time for this issue, Federal District Judge W. G. Knoch dismissed in Chicago the carriers' petition for a declaratory judgment as to whether or not the health, welfare and free transportation demands of the 15 non-operating unions were outside the scope of the Railway Labor Act and thus not a subject for negotiation. His action parallels that of Presidential emergency board Chairman Charles Loring, who earlier had overruled a carrier plea that testimony on these demands be stricken from the record. Mr. Loring is retired chief justice of the Minnesota Supreme Court. Hearings by his board have been recessed until February 15.

Here is a rundown of other railway labor developments:

Engineers — The National Mediation Board is currently conferring with representatives of the Brotherhood of Locomotive Engineers and the carriers over the former group's demands for a 30 per cent wage boost. The union has turned down a settlement offer based upon that already accepted by the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen & Enginemen. The sessions, up to press time for this issue, were termed "routine" by a carrier spokesman.

Dispatchers — Because the so-called "trainman settlement" package didn't come up to the needs of "the skilled employees we represent," O. H. Braese, president of the American Train Dispatchers Association, has asked the mediation board to step into the case. Four weeks' paid vacations and a universal sick-leave plan are among the demands of this group.

Yardmasters — Similarly, the Railroad Yardmasters of North America have turned down a carrier offer of settlement with a "trainman" package because "it doesn't meet the special needs of the yardmasters," according to President Milton G. Schoch. His group seeks a 45 per cent pay boost to "restore yardmasters to their historic wage relationship with other rail workers."

Switchmen — A strike ballot is currently being circulated among membership of the Switchmen's Union of North America on western roads (which are the only ones active in the current negotiations—others having signed standby agreements). The ballots would authorize the union's national wage-rules committee to set an actual strike date as it saw fit. President W. A. Fleete previously turned down a "trainman settlement" package offered by the carriers.

Pullman Conductors — The O.R.C. has requested the mediation board to step into the case involving the union's demands for a shorter work month for Pullman Company conduc-

GOVERNMENT OFFERS RR TO PRIVATE ENTERPRISE

Operation of the government-owned railroad from Brandywine, Md., to the Naval Air Station at Patuxent River, will be discontinued next July 1, the Navy has announced. Efforts will be made, according to Naval officers, to have private enterprise undertake operation of the railroad to accommodate whatever commercial traffic may now be utilizing it.

It is estimated that necessary repairs to the road would cost approximately $1,000,000, with operating and maintenance costs exceeding $100,000 yearly. The government will retain title to the right-of-way to be able to reclaim it if needed for mobilization purposes. If a private company does not take over, shipments formerly made by rail to and from the Naval Air Test Center will be diverted to truck and barge service.

THERE'S NO MISTAKING the identity of this new enginehouse at Edwardsville, Ill. The letters are almost as tall as the painters who put them up.

tors. The union is seeking a 174-hr. work month; the company has offered 205. One qualified observer said he felt the spread between the demand and the offer was such that it could hardly be reconciled through mediation procedures. He predicted the case would probably wind up under arbitration or under a Presidential emergency board.

Express Clerks—The Presidential emergency board is expected to render its report on February 17 on the demands of the Brotherhood of Railway Clerks for wage increases varying up to 37½ cents an hour for members employed by the Railway Express Agency.

Conductors—At press time no reportable developments have come from the mediation proceedings of the O.R.C.'s demands for graduated rates of pay based on weight on drivers of locomotives hauling a train.

In Congress

Senate Group Names New Subcommittees

A new slate of subcommittees was named last week by the Senate Interstate and Foreign Commerce Committee. Former subcommittees were abolished to make way for the new assignments.

Senator Bricker, Republican of Ohio, heads the overall Senate Committee. Transportation subcommittees established last week include those on surface transport, water transport and aviation.

The surface transport group will be headed by Senator Schoeppel, Republican of Kansas. Senator Butler, Republican of Maryland, is chairman of the water transportation subcommittee, and the aviation chairman will be Senator Griswold, Republican of Nebraska.

Members Changed — Membership of the Senate Interstate Commerce Committee has changed in the past year as a result of the death of Senator Tobey, Republican of New Hampshire, and the transfer of two other Republicans, Capehart of Ohio and Cooper of Kentucky.

Present lineup of the committee is as follows:

Republicans: Bricker, Schoeppel, Butler, Potter of Michigan, Griswold, Duff of Pennsylvania, Purtell of Connecticut and Payne of Maine.

Democrats: Johnson of Colorado, Magnuson of Washington, Johnson of Texas, Hunt of Wyoming, Pastore of Rhode Island, Monroney of Oklahoma and Smathers of Florida.

Pardon Our Slip . . .

. . . But, on page 18 of the January 18 issue we stated, "The installation of tie pads coincident with the laying of new rail has been standard practice on the New York, New Haven & Hartford since 1951 when it was decided that such a policy would result in an increase in tie life of approximately 10 per cent through the reduction of deterioration and mechanical wear of ties in the plate area." We now find that the sentence should have read, ". . . approximately 50 per cent . . ." Our apologies to all concerned

Equipment & Supplies

FREIGHT CARS

The **Denver & Rio Grande Western** has ordered 10 cabooses from its own shops at a cost of $125,000.

LOCOMOTIVES

The **Illinois Central** has ordered 50 diesel units from the Electro-Motive Division of General Motors Corporation at an estimated cost of $8,402,760. Included are 48 1,750-hp. general purpose units and two 2,400-hp. passenger units.

The **Nickel Plate** has ordered 25 diesel units, at an estimated cost of $3,737,171. The American Locomotive Company will build 23 1,600-hp. road-switchers, and the Baldwin-Lima-Hamilton Corporation, two 1,600-hp. all-service switchers.

MARINE

Bethlehem Steel's Staten Island Yard Set Record

Bethlehem Steel Company's Staten Island, N.Y., yard delivered 112 harbor craft of various types in 1953, making it an all-time high for the yard from the standpoint of deliveries, according to Arthur Hiltebrant, general manager of Bethlehem's New York district shipyards. The yard's 1953 production was largely attributed to the "forward-looking replacement program undertaken by railroads with fleets in New York harbor, under sponsorship of the General Managers Association."

During the past few years, the yard has constructed more than 230 craft for railroads, including deck scows, freight barges, car floats, tugs, pontoons and derrick hulls.

The **Delaware, Lackawanna & Western** has ordered 10 freight barges from the Staten Island, N.Y., yard of the Bethlehem Steel Company.

SPECIAL

Railway Maintenance Corporation has received orders for 10 McWilliams ballast distributors for the **Pennsylvania** and eight for the **New York Central.**

Supply Trade

G.E. Opens New Apparatus Service Shop, Warehouse

The General Electric Company formally opened its new $2,600,000 apparatus service shop and warehouse in Philadelphia on January 28. The structure is on an eight-acre site at Erie avenue and I street on the main line of the Pennsylvania.

R. B. Rose, manager of the new shop, said "it provides the increased space, tools and equipment necessary to service the rapid expansion of industrial and transportation business in the Philadelphia area. We will be able to repair all major transportation, utility and industrial electrical apparatus."

Morrison, International Realine Operations

In a relinement of operations of the Morrison Railway Supply Corporation and its affiliate, the International Railway Car Company, all car building and repairs will be carried out by International, which will take over operation of the Buffalo, N. Y., car repair plant formerly conducted by Morrison. The car leasing program known as "The Morrison Plan" has also been turned over to International, as have leases involving approximately 500 freight cars. A part of International's Kenton, Ohio, plant will be used for freight car repairs, but the main operation there will continue to be the building of cabooses.

All other related railway operations will be handled by Morrison Railway Supply, including track reconditioning for short-line and industrial railroads, the manufacture and sale of the Condon highway crossing, and three track reclamation plants for the Pennsylvania.

Karl F. Long, formerly with the Pullman Company, has been appointed chief engineer for International, and Alois C. Gesegnet, formerly with the Merchants Despatch Transportation Company, has been named superintendent of the Buffalo operations.

Latest railroad to sign a lease agreement with Morrison is the Illinois Terminal, which is leasing 150 flat cars. In addition, several other railroads reportedly are negotiating for leasing agreements.

Robert D. Curley has been appointed assistant vice-president, sales, of **Standard Forgings Corporation,** at Chicago.

Paul Renshaw, chairman of the board of **General Railway Signal Company,** has established a $6,000 scholarship at Rensselaer Polytechnic Institute. The 1954 award will pay $1,000 annually to the recipient of the

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COMPANY

AIR BRAKE DIVISION WILMERDING, PA.

K. S. HOWARD (left), has been appointed vice-president—steel foundry, Canadian Car & Foundry Co.; E. W. JOHNSON (center), vice-president in charge of sales of railway car equipment; and G. G. WALSH, assistant vice-president, industrial relations. They were formerly, respectively, assistant vice-president, foundry division; sales manager, car division; and manager, personnel and industrial relations department.

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scholarship for a four-year course in science or engineering, and the institute is to receive $2,000 to meet costs in excess of regular tuition charges.

William B. Barnard, sales engineer for **Minneapolis-Honeywell Regulator Company** at Philadelphia, has been named assistant sales manager, transportation division, at Minneapolis.

Robert Beecken, representative in the export division of **American Brake Shoe Company,** has been advanced to manager of railway product sales of that division.

Claude E. Hippensteel, general traffic manager of the **Okonite Company,** has retired.

John L. Marshall, assistant district sales manager at Fort Worth, Tex., for the **American Steel & Wire Co.,** a subsidiary of the United States Steel Corporation, has been named assistant to general sales manager of the Cyclone Fence department at Waukegan, Ill. Appointed to succeed him is **Charles J. Kinman,** a salesman at Fort Worth.

Morton Manufacturing Company, Muskegon Heights, Mich., has appointed **Oren G. Rutemiller** as manager of sales and engineering; **Sherwood Basch** as acting chief engineer; and **Kenneth Oslund** as chief engineer, welding division.

Robert McNeal Smith, assistant vice-president, sales, eastern area, **Pittsburgh Screw & Bolt Corp.,** has been elected a vice-president.

Allen B. DuMont Laboratories, Inc., has formed a communications products division, which will develop, manufacture and market mobile radio transmitter and receiver equipment. The new division will comprise two major units — a television transmitter department and a mobile communications department. The latter will be headed by **Fred M. Link,** formerly president of **Link Radio Corporation,** as director of operations.

William A. Bauer, chairman of the board of **Baker-Raulang Company,** has also been elected president, succeeding **James W. Moran,** retired. **Charles N. Sumwalt, Jr.,** vice-president, eastern sales division has been appointed executive vice-president.

H. Rowell Conklin has been appointed manager, Milwaukee office, of **Continental-Diamond Fibre Company,** succeeding **Walter R. Clarke,** deceased.

R. J. Marschalk, district manager for **Homelite Corporation** at San Francisco, has been appointed Chicago district sales manager, with headquarters at Melrose Park, Ill.

AMERICAN LOCOMOTIVE COMPANY has established a new marketing organization, responsible for market research, product planning and all field sales. Management changes to staff the new organization include appointment of WILLIAM A. CALLISON (left), formerly vice-president, eastern sales, as vice-president in charge of customer relations for all product divisions; WILLIAM F. LEWIS (center), formerly vice-president, western sales, as vice-president in charge of marketing; and ARTHUR T. LAWRANCE (right), formerly southwest regional sales manager, Alco Products division, as general manager of field sales, all products.

New Facilities

38 Miles of Welded Rail Programed by Santa Fe

The Sante Fe is currently engaged in a welded rail program that will result in 38.7 miles of 115-lb. rail being laid on its Eastern and Oklahoma divisions. From 30 to 37 standard rail lengths are welded into continuous rail with Oxweld equipment located at Topeka, Kan.; completed rail lengths are then loaded directly onto flat cars for handling to location.

Two shifts are currently employed at the pressure welding site, both to speed the program and to lower operating costs for the welding machine, which has been leased on a monthly basis, a spokesman for the Santa Fe explained.

Rio Grande's '54 Budget Exceeds $3 Million

The largest single project planned by the Denver & Rio Grande Western during 1954 is installation of a total of 45 miles of new 115-lb. rail at various main-line locations. The rail and other track materials is expected to cost slightly more than $1.7 million. An additional $148,000 will be spent for new bridges, trestles and culverts, and $149,700 has been allocated for new yard trackage.

A modern telephone system will be installed between Denver, Grand Junction and Salt Lake City; it will carry superimposed teletype channels. The road also proposes to move two existing C.T.C. machines at Funston, Colo., and Green River, Utah, to consolidate them with C. T. C. equipment presently located at Grand Junction, Colo.

Ten all-steel cabooses will be constructed in company shops at a total cost of $125,000.

Canadian Pacific.—The Canadian Parliament has approved a bill authorizing the CPR to construct a 15-mile branch line from Havelock, Ont., about halfway between Ottawa and Toronto, north to Nephton. Purpose of the branch, which is estimated to cost about $1,500,000, is to improve transportation facilities for the American Nepheline Company, which mines Nepheline syenite — used in making glass and pottery — at Nephton.

Erie. — The I.C.C. has authorized abandonment of the Erie's original main line between Howells Junction, N. Y., and Graham, approximately 11 miles, and diversion of all through traffic to the paralleling Graham line, which provides better grade conditions, crossing the Shawangunk mountains at an elevation about 100 ft. lower than the older route. In connection with the diversion, the Erie will build a new passenger station at Otisville, N. Y., and a passenger shelter at Howells; and will convert a little more than six miles of the original line to a spur track to serve existing industries in those two communities. The new route will be included in approximately 50 miles of line operated under centralized traffic control from Jersey City, N. J., 70 miles away.

Long Island. — LI Trustee William Wyer has requested approval from the New York Public Service Commission for a $313,000 program to improve grade-crossing protection at seven locations in Nassau county and three in Suffolk County. Automatic gates would be installed at eight of the crossings and flashing light signals at the other two.

Pennsylvania.—A new freight station serving the Muskegon (Mich.) and Muskegon Heights area was opened for business January 4. The new 100-ft. by 32-ft. building has a 40-ft. concrete platform and ramp. The freighthouse track is 580 ft. long and parallels the road's Muskegon-Grand Rapids line. The PRR began handling its own business in the area on January 1, following termination of industrial switching arrangements with the Grand Trunk Western.

St. Louis-San Francisco.—Division 4 of the I.C.C. has authorized this road to rehabilitate a 1.4-mile segment of line in Cherokee county, Kan., and to construct a 1-mile extension to this segment. The new line will serve manufacturing plants near Joplin, Mo. Cost of rehabilitating and extending the line is estimated at $108,892.

Santa Fe.—A contract covering construction of electrical substation facilities, truck storage garage, and nonferrous metals and burlap storage building, and completion of storehouse building, all at Corwith, Ill., has been awarded to the Ellington Miller Company, Chicago. The work is part of the overall modernization of Corwith yard (Chicago).

Texas & Pacific.—A new frame depot will be built at Greggton, Tex. Studies are currently under way to determine what type of public address system will be installed in the El Paso passenger station. Work will soon begin on passing track extensions between Fort Worth and Baird, with present sidings to be extended to 7,500 ft. A new siding will be built at Sweetwater. Mechanical department facilities at Addis, La., are being rebuilt for diesel locomotive maintenance. Additional fuel oil facilities are to be provided and a number of buildings—including a blacksmith shop, a shop building and garage formerly used by T&P Motor Transport, a turntable and 20 engine pits—will be retired. The maintenance of way equipment repair shop at Marshall, Tex., is being enlarged by a 100-ft. by 51-ft. addition.

Railway Officers

ARKANSAS & LOUISIANA MISSOURI.—**F. T. Whited,** president, has been elected chairman of the board; **R. F. Humble,** vice-president and general auditor, has been elected president and general manager; **Wallace Nelson,** traffic manager, has been elected vice-president and traffic manager, and **J. V. Willis,** assistant general auditor, has been elected secretary and treasurer, all at Shreveport, La.

BANGOR & AROOSTOOK. — **Robert W. Miller** has been appointed assistant division agent at Limestone Air Force Base, to handle rail and bus passenger traffic and rail freight traffic for that installation.

Because of demands of an expanding personnel program, **Carl E. Delano,** director of personnel, has been relieved of collateral duties in passenger traffic and public relations departments. **J. Fred Smith,** passenger traffic manager—rail, has been appointed passenger traffic manager. **Kenneth S. Ludden** continues as assistant director public relations, reporting to **Russell H. Peters,** assistant to president.

BOSTON & MAINE.—**Neal Holland,** commerce counsel, has been appointed general attorney at Boston.

Herbert E. Bixler, general superintendent transportation, has been appointed assistant to president, with headquarters as before at Boston. Mr. Bixler, a graduate of Amherst College, who also holds an M.S. degree from Yale University, joined the B&M in 1950 as general superintendent transportation after 14 years experience on

Herbert E. Bixler

the New Haven as merchandise supervisor, superintendent freight transportation, transportation assistant and general superintendent transportation.

As reported in *Railway Age* January 11, page 250, **Richard Jackson** has been appointed general counsel at Boston. Mr. Jackson, born in Medford, Mass., was graduated from Dartmouth

(A.B., 1933, Phi Beta Kappa) and Columbia Law School (LL.B., 1938). Following his discharge from the U.S. Navy as lieutenant commander in 1946,

Richard Jackson

Mr. Jackson became an attorney for the B&M and was appointed general attorney in 1947.

Whitcomb Haynes, superintendent of the Fitchburg division at Greenfield, Mass., has been appointed general superintendent transportation at Boston. **Tracy R. Quick,** assistant superintendent, Fitchburg division, has been promoted to superintendent of that division, with headquarters remaining at Greenfield. **Henry H. Livingston, Jr.,** assistant superintendent of the Terminal division at Concord, N.H., has been transferred to the Fitchburg division at Greenfield.

BURLINGTON. — Cecil G. Kersey, assistant general passenger agent at Chicago, has been named manager mail, baggage and express traffic at that point, succeeding the late **Donald C. Raffensparger. Richard A. Campbell,** general agent — passenger department at Omaha, replaces Mr. Kersey.

CENTRAL OF GEORGIA. — H. C. White, assistant freight traffic manager, sales, has been appointed general freight traffic manager at Savannah, succeeding **William E. Stewart,** who has retired after more than 51 years' service. **E. Candler Jones,** assistant freight traffic manager at Atlanta, has been named freight traffic manager, sales and service, at Savannah, succeeding **Charles D. Chancellor,** who has retired after 55 years of service. **Allen W. Sanders,** assistant freight traffic manager, has been promoted to freight traffic manager, rates, with headquarters as before at Savannah. **Edward J. McCaffrey,** general freight agent (rates), has been named assistant freight traffic manager at Savannah. **Kendrick R. Bragg,** assistant general freight agent, has been appointed general freight agent, Savannah. **A. D. Humphrey** and **Thomas J. Wren** have been appointed assistant general freight agents at Savannah. **Raymond D. Massey,** division freight agent at Augusta, has been named assistant freight traffic manager at Atlanta, succeeding Mr. Jones. **R. E. Pendley** has been appointed general agent at Winston-Salem, N.C., succeeding **L. J. Ward,** who replaces Mr. Massey as division freight agent at Augusta.

R. E. Sease has been appointed general superintendent transportation at Savannah. The position of superin-

ACCOUNTING . . .

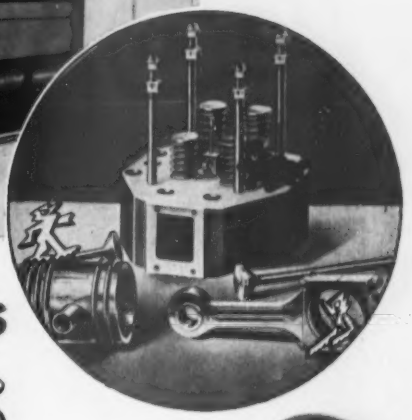
(Continued from page 71)

rather than as two unrelated subjects. This study should be aimed at determining the varying degrees of correlation that exist between changes in the volume of physical activity and the various cost elements. With the statistical techniques available today, it should be possible to develop from such a study standards of performance sufficiently sensitive to the changes in the level of operating activity to serve as reliable and useful guides to transportation supervisors.

The fourth requisite for an effective supervisory control tool is simplicity. Accounting statements do not control costs. The value of a control statement is derived solely from its usefulness to the people in a position actually to exercise control over costs. Transportation supervisors have a full-time job in operating the railroad. If they are to be expected to use a control statement, the information that can be of use to them must be readily accessible in an understandable form. If they are furnished with a report that requires a great deal of their time for analysis and interpretation before it can be of use to them, they simply will not use it. The finest control report conceivable is nothing but a worthless piece of paper if the people for whom it is intended do not use it. Accounting terms, such as debits, credits, adjustments, reversals, accruals, etc., have little meaning to an operating man and should be avoided. The only way to encourage use of control statements is to keep them simple and easy to use. It should always be kept in mind that the man being served is a transportation specialist, and not a certified public accountant.

This then is the way this writer believes that the accounting departments can increase their service to the operating departments. The transportation supervisory personnel who play a dominant role in determining a railroad's operating efficiency have not been receiving adequate cost-control service from the accounting departments. Adequate service to them calls for prompt, frequent cost-control statements with expenses reported on a responsibility basis so that the supervisor can relate them to his specific job. In addition, he should be supplied with a means of evaluating his performance so that he can react quickly and effectively to changed conditions. Further, this information should be reported to him in a clear, concise, easy-to-use form. The means for supplying this service at a reasonable cost are available to the accounting departments of the American railroads. The discharge of their responsibility to operating management requires that they render this service.

D. B. WOOMER (left), assistant auditor disbursements, Pere Marquette district, Chesapeake & Ohio, Detroit, receives check for $100 for his prize-winning paper in *Railway Age's* essay contest. Title of Mr. Woomer's paper was "Accounting Service to Transportation Supervisors." Making the presentation is J. W. Milliken, associate editor of *Railway Age*. C. J. Millikin, assistant general manager of the PM district, looks on at right.



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tendent transportation, formerly held by Mr. Sease, has been abolished.

Mr. White first joined the CofG as agent in his native town of Thomas-

H. C. White

E. Candler Jones

Allen W. Sanders

ton, Ga., February 1, 1914, and was named assistant freight traffic manager, sales, at Savannah January 1, 1950.

Mr. Jones, born in Waynesboro, Ga., began his career as statistical clerk in the CofG traffic department at Savannah March 5, 1921. He was appointed assistant freight traffic manager at Atlanta February 1, 1952.

Mr. Sanders started his railroad career as mimeograph operator in the general freight office of the CofG at Savannah, his native city. He became assistant freight traffic manager September 1, 1945.

CHESAPEAKE & OHIO.—P. E. Clough, agent-general yardmaster at Ludington, Mich., has been appointed terminal manager-agent at that point.

P. E. Brammer and **R. W. Vawter** have been appointed special engineers—operations, at Huntington, W. Va. **W. S. C. Burwell,** junior master mechanic, has been named master mechanic at Russell, Ky., succeeding **J. E. Garretson,** retired.

L. R. Long has been appointed assistant comptroller, with headquarters remaining at Cleveland.

J. J. Ohorodnik, staff assistant, operating department, has been appointed assistant to assistant general manager at Detroit.

F. J. McCarthy has been appointed assistant to vice-president, and will handle passenger and public relations at Chicago. Mr. McCarthy was mem-

F. J. McCarthy

bership secretary of the Federation for Railway Progress from 1947 to 1949 and, more recently, a partner in the George E. Forbes Real Estate Company.

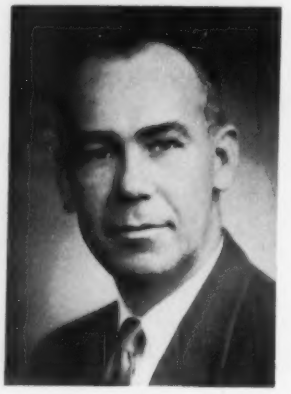
Alfred O. Jones, assistant division engineer at Hinton, W.Va., has been advanced to division engineer at Detroit, succeeding **R. T. Guest,** resigned.

CHICAGO & NORTH WESTERN.—T. M. Van Patten, assistant director personnel at Chicago, has been promoted to director personnel there, succeeding **Guy F. Stephens,** vice-president in charge of personnel, who retired recently. **O. E. Krause,** assistant personnel officer, has been appointed personnel officer, and **O. J. Gartrell,** schedule examiner, has been named personnel officer.

Named as general labor attorney is **William J. Fremon,** general attorney.

Harold A. Lenske, public relations assistant at Chicago, has been appointed editor of the North Western's employee magazine, The Newsliner, succeeding **George W. Eastland,** who is to become editor of an employee magazine to be established by the Delaware, Lackawanna & Western (*Railway Age*, January 4, pages 16 and 253).

GREAT NORTHERN. — As reported in *Railway Age* January 4, **R. R. Manion** has been appointed chief engineer at St. Paul. Mr. Manion went to the GN from the Pennsylvania in



R. R. Manion

1938 as office assistant to operating vice-president. He became trainmaster in 1940 and engineer maintenance of way in 1946.

Fred E. Wiesner, office engineer at Seattle, and **B. E. Burr,** division engineer at Spokane, retired December 31. Named to succeed Mr. Wiesner is **B. G. Anderson,** division engineer at Great Falls, Mont., while **K. E. Wyckoff,** instrumentman at Spokane, replaces Mr. Burr. Mr. Anderson has been succeeded by **Arlie Bornhoft,** instrumentman at Great Falls. **L. W. Leitze,** rail detector car operator, has been advanced to engineer of track at St. Paul.

H. E. Colman, general foreman, has been appointed superintendent shops, with headquarters as before at Superior, Wis., succeeding **H. A. M. Whyte,** whose appointment as assistant to chief mechanical officer at St. Paul was reported in *Railway Age* January 4.

Harley J. Sprague has been appointed division storekeeper at Minot Store, N.D., succeeding **A. W. Nelson,** who has retired after 36 years of service.

W. H. Lange and **J. B. Darling** have been appointed assistant auditors of disbursements at St. Paul. Accounting personnel at that point whose titles have been changed include **D. G. Peterson,** auditor car records, who becomes auditor equipment service accounts; **J. H. Hoelscher,** joint facility accountant, whose new title is auditor joint facility accounts; and **L. G. E. Johnson,** traveling joint facility accountant, who becomes western auditor.

Retiring as general agent at Bill-

ings, Mont., is **D. C. Bates,** who has been succeeded by **H. E. Johnson,** general agent at Buffalo, N.Y.

N. Stockhammer, assistant secretary and assistant treasurer, in charge of the company's financial office in New York, retired January 31, after 52 years of service. **R. M. O'Kelly,** assistant secretary and assistant treasurer, succeeds Mr. Stockhammer in charge of the New York financial office. **E. V. Fink** has been appointed assistant treasurer at New York.

NORTHERN PACIFIC. — LeRoy H. Hines, vice-president—oil development, has resigned from that position effective February 15. A short joint announcement issued by Mr. Hines and NP-President Robert S. MacFarlane indicated that Mr. Hines would announce his future plans in a short time. It gave no indication as to whether or not a successor would be named. Mr. Hines came to the NP in 1952 as vice-president. He was placed in charge of oil development operations on the more than three million acres of land in the Williston Basin which the road either owns outright or to which it has mineral rights.

PACIFIC ELECTRIC. — T. L. Wagenbach, general manager at Los Angeles, retired January 7. His duties have been assumed by **G. F. Squires,** vice-president, whose new title is vice-president and general manager; and **Russell Moebius,** who has been promoted from general superintendent to assistant general manager.

PANHANDLE & SANTA FE.— Clinton Louis Heimbach, roadmaster at San Angelo, Tex., has been named assistant professor of railroad engineering for the second semester of 1953-1954 at the University of Michigan. Mr. Heimbach will teach courses in railroad and transportation engineering and cooperate with the railroad industry in development of research interest in this field.

PITTSBURG & SHAWMUT. — Charles Donley & Associates have been appointed traffic and business consultants at 34 Market place, Pittsburgh 22. Special attention will be given to assisting industries in locating plants along the P&S line in Armstrong and Jefferson counties, Pa.

PULLMAN COMPANY.—Charles Corazza, assistant auditor receipts, and **J. Arnold Zeller,** capital expenditure accountant, have retired.

SOUTHERN.—Robert S. Hamilton has been appointed to the newly created position of plans engineer (mechanical department) at Washington, D.C. Mr. Hamilton was formerly consultant in the management services department of Arthur Young & Co. at Chicago. In his new position Mr. Hamilton will direct and supervise a continuing study and analysis of shop methods and procedures throughout the entire system.

William F. Cross, secretary to tax commissioner, has been promoted to assistant tax agent, with headquarters remaining at Atlanta, Ga.

Joel T. Gheesling, Jr., has been appointed assistant general western freight agent at Chicago, succeeding **J. Russell Price,** who has been appointed general agent, freight department, at Detroit, replacing **R. E. Spalding,** resigned. **Harold G. Lind,** commercial agent, has been appointed district freight agent, with headquarters as before at Detroit, succeeding **William H. Heggarty,** who replaces Mr. Gheesling as division freight and passenger agent at St. Louis. **Charles E. Maynard,** commercial agent at Belle Glade, Fla., has been appointed district freight and passenger agent at Orlando, Fla., succeeding **O. W. Hurlbert, Jr.,** deceased. **Terry L. Sellers,** commercial agent at West Palm Beach, has been named district freight and passenger agent at Belle Glade. **Earl L. Dearhart, Jr.,** district freight agent at Birmingham, Ala., has been appointed assistant general freight and

(Continued on page 97)

Meetings & Conventions

The following list gives names and addresses of secretaries, and dates and places of next or regular meetings.

AIR BRAKE ASSOCIATION.—Lawrence Wilcox, Room 827,, 80 E. Jackson Blvd., Chicago 4. Annual meeting September 13-15, 1954, Hotel Sherman, Chicago.

ALLIED RAILWAY SUPPLY ASSOCIATION.—C. F. Weil, P. O. Box 5522, Chicago 80. Exhibit at Coordinated Mechanical Associations meeting, September 12-15, 1954, Hotel Sherman, Chicago.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—T. R. Stanton, 1450 Railway Exchange Bldg. St. Louis 1. Annual meeting, June 15-17, 1954, Edgewater Beach Hotel, Chicago.

AMERICAN ASSOCIATION OF PASSENGER RATE MEN.—William Bina, 1115 Railway Exchange, Chicago 4.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, Eastern Time Table Distributing Company, Liberty Street Terminal, New York 6.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elise La Chance, Room 901, 431 S. Dearborn St., Chicago 5. Annual meeting, June 8-10, 1954, Hotel La Salle, Chicago.

AMERICAN ASSOCIATION OF TRAVELING PASSENGER AGENTS.—C. A. Melin, P. O. Box 5025, Cleveland 2.

AMERICAN COUNCIL OF RAILROAD WOMEN.—Amy Mitchell, Atlanta & West Point, Atlanta 3.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elise La Chance, Room 901, 431 S. Dearborn St., Chicago 5. Annual meeting, September 13-15, 1954, Conrad Hilton Hotel, Chicago.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 E. 47th St., New York 17.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—D. M. Lynn, Erie, 514 Republic Bldg., Cleveland 15. Annual meeting, May 17-19 1954, Hotel Utah, Salt Lake City.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division—Neal D. Howard, 59 E. Van Buren St., Chicago 5. Annual meeting, March 16-18, 1954, Palmer House, Chicago.

AMERICAN RAILWAY MAGAZINE EDITORS ASSOCIATION.—G. P. McCallum, Maine Central, 222 St. John St., Portland, Me. Annual meeting, September 1954, Mt. Royal Hotel, Montreal.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—C. E. Huntley, 2000 Massachusetts Ave., N. W., Washington 6, D. C.

AMERICAN SOCIETY FOR TESTING MATERIALS.—R. J. Painter, 1916 Race St., Philadelphia 3. Annual meeting, June 14-18, 1954, Sherman and Morrison Hotels, Chicago.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York 18.

RAILROAD DIVISION.—E. L. Woodward, *Railway Locomotives and Cars*, 79 W. Monroe St., Chicago 3.

AMERICAN WOOD-PRESERVERS' ASSOCIATION.—W. A. Penrose, 839 Seventeenth St., N. W., Washington 6, D. C. Annual meeting, April 26-28, 1954, Chalfonte-Haddon Hall, Atlantic City.

ASSOCIATED TRAFFIC CLUBS OF AMERICA.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 Federal Reserve Bank Bldg., Cincinnati 2. Annual meeting, September 27-29, 1954, Kentucky Hotel, Louisville.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—P. E. Griffith, Wabash, Railway Exchange Bldg., St. Louis 1.

ASSOCIATION OF AMERICAN RAILROADS.—George M. Campbell, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Department.—R. G. May, Vice-president, Transportation Bldg., Washington 6, D. C.

Operating-Transportation Division.—A. I. Ciliske, 59 E. Van Buren St., Chicago 5.

Operating Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5.

Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5.

Communications Section.—A. H. Grothmann, 59 E. Van Buren St., Chicago 5.

Fire Protection and Insurance Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5.

Freight Loss and Damage Prevention Section.—G. H. Ruhle, 59 E. Van Buren St., Chicago 5.

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5.

Medical and Surgical Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5.

Protective Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5.

Safety Section.—H. S. Dewhurst, 59 E. Van Buren St., Chicago 5.

Electrical Section of the Engineering and Mechanical Divisions.—S. W. Marras, 59 E. Van Buren St., Chicago 5.

Engineering Division.—E. G. Gehrke, 59 E. Van Buren St., Chicago 5.

Construction and Maintenance Section.—Neal D. Howard, 59 E. Van Buren St., Chicago 5. Annual meeting, March 16-18, 1954, Palmer House, Chicago.

Signal Section.—R. H. C. Balliet, 59 E. Van Buren St., Chicago 5. Annual meeting October 4-6, 1954, Netherland Plaza Hotel, Cincinnati.

Mechanical Division.—Fred Peronto, 59 E. Van Buren St., Chicago 5.

Purchases and Stores Division.—John L. Timanus, Transportation Bldg., Washington 6, D. C. Annual meeting, June 7-9, 1954, Palmer House, Chicago.

Freight Claim Division.—C. C. Beaupre, 59 E. Van Buren St., Chicago 5.

General Claims Division.—F. L. Johnson, Gulf, Mobile and Ohio, 104 St. Francis St., Mobile 5, Ala.

Car Service Division.—Arthur H. Gass, Chairman, Transportation Bldg., Washington 6, D. C.

Finance, Accounting, Taxation and Valuation Department.—Arthur R. Seder, Vice-president, Transportation Bldg., Washington 6, D. C.

Accounting Division.—R. E. Keefer, Transportation Bldg., Washington 6, D. C. Annual meeting, May 24-27, 1954, Shoreham Hotel, Washington, D. C.

Treasury Division.—R. E. Keefer, Transportation Bldg., Washington 6, D. C. Annual meeting, September 6-9, 1954, The Greenbrier, White Sulphur Springs, W. Va.

Traffic Department.—Walter J. Kelly, Vice-president, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF INTERSTATE COMMERCE COMMISSION PRACTITIONERS.—Miss Sarah F. McDonough, Executive Secretary, 2218 I.C.C. Building, Washington 25, D. C. Annual meeting, May 18-19, 1954, Sheraton-Plaza Hotel, Boston.

ASSOCIATION OF RAILROAD ADVERTISING MANAGERS.—A. W. Eckstein, (Asst. Secy.) Illinois Central, 135 E. Eleventh Pl., Chicago 5.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Gulf, Mobile & Ohio, 104 St. Francis St., Mobile 5, Ala. Annual meeting, May 26-28, 1954, Hotel Statler, Los Angeles.

BRIDGE AND BUILDING SUPPLY ASSOCIATION.—L. R. Gurley, Modern Railroads, 201 N. Wells St., Chicago 6.

CANADIAN RAILWAY CLUB.—C. R. Crook, P. O. Box 162, Montreal 3, Que. Regular meetings, second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—D. W. Kramer, 7207 W. Main St., Belleville, Ill. Regular meetings fourth Tuesday of each month except June, July and August, Hotel DeSoto.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31. Annual meeting, September 13-15, 1954, Hotel Sherman, Chicago.

CAR FOREMAN'S ASSOCIATION OF CHICAGO.—W. R. McCain, Mather Stock Car Company, 326 N. Michigan Ave., Chicago 1. Regular meetings, second Monday of each month, except June, July and August, LaSalle Hotel.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, Hotel Statler, McKinley Square, Buffalo 5. Regular meetings, second Thursday of each month except June, July and August, Hotel Statler.

CHICAGO RAILROADS CAR ACCOUNTING OFFICERS.—W. H. Soderlund (chairman) Chicago & Eastern Illinois, 66th & Union Avenue, Chicago 21. Regular meetings, last Wednesday of each month, except July and August, Congress Hotel, at 12:30.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. C. Rochester, Canadian National, 891 Notre Dame St., West, Montreal 3, Que. Next meeting, May 13-14, 1954, Milwaukee.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York 7. Regular meetings, second Friday of January, February, March, April, May, October and November, 29 W. 39th St., New York.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker St., North Little Rock, Ark. Annual meeting, September 13-15, 1954, Hotel Sherman, Chicago.

MAINTENANCE OF WAY CLUB OF CHICAGO.—E. C. Patterson, 400 W. Madison St., Chicago 6. Regular meetings, fourth Monday of each month, October through April inclusive, except December, which is third Monday, at Welty's Restaurant, Field Bldg.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany 8. Annual meeting, September 13-15, 1954, Hotel Sherman, Chicago.

METROPOLITAN MAINTENANCE OF WAY CLUB.—John S. Vreeland, Simmons-Boardman Publishing Corp., 30 Church St., New York 7. Meets in February, April, October and December. Next meeting March 4, 1954, Railroad-Machinery Club of New York, 30 Church St., New York.

MILITARY RAILWAY SERVICE VETERANS.—F. W. Okie, Union R.R., Frick Bldg., P. O. Box 536, Pittsburgh. Annual meeting September 17-19, 1954, Schroeder Hotel, Milwaukee.

MISSISSIPPI VALLEY MAINTENANCE OF WAY CLUB.—P. E. Odom, 1025 Frisco Building, 906 Olive St., St. Louis. Regular meetings, second Monday of each month September through May, DeSoto Hotel, St. Louis.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Austin L. Roberts, Jr., 7413 New Post Office Bldg., P. O. Box 684, Washington 4, D. C. Annual meeting, November, 1954, Chicago.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—T. C. Burwell, A. E. Staley Mfg. Co., 22nd St., Decatur, Ill.

NATIONAL DEFENSE TRANSPORTATION ASSOCIATION.—Mrs. Lois C. Gebran, Suite 728, 1001 Connecticut Ave., Washington 6, D. C. Annual meeting, October 24-27, 1954, William Penn Hotel, Pittsburgh.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—L. J. Dorr, Suite 909, Sheraton Bldg., 711 14th St., Washington 5, D. C. Annual meeting, November 18-19, 1954, Hotel Statler, New York.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—J. B. Templeton, Templeton, Kenly & Co., 1020 S. Central Ave., Chicago 44. Lewis Thomas, Asst. Secy., 59 E. Van Buren St., Chicago 5.

NATIONAL SAFETY COUNCIL, RAILROAD SECTION.—C. T. DeWitt, Northern Pacific, St. Paul 1, Minn. Annual meeting, October 19-21, 1954, Morrison Hotel, Chicago.

NEW ENGLAND RAILROAD CLUB.—William M. McCombs, 35 Lewis Wharf, Boston 10. Regular meetings, second Tuesday of each month, except May-September, incl. Hotel Vendome, Boston.

NEW YORK RAILROAD CLUB.—C. T. Stansfield, 30 Church St., New York 7. Regular meetings, third Thursday of each month except June, July, August, September and December. Century Room, Commodore Hotel. Reception, 6 p.m.; dinner, 7; meeting, 8:15.

NORTHWEST CARMEN'S ASSOCIATION.—N. J. Maglich, Minnesota Transfer Ry., 2071 University Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month, except June, July, and August, Midway Club, 1931 University Ave., St. Paul.

NORTHWEST LOCOMOTIVE ASSOCIATION.—R. M. Wigfield, Northern Pacific, Room 1134, G. O. Bldg., St. Paul 1, Minn. Regular meetings, third Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul.

PACIFIC RAILWAY CLUB.—S. E. Byler, 121 E. Sixth St., Los Angeles 14. Regular meetings, second Thursday of each alternate month at Sir Francis Drake Hotel, San Francisco, and Elks' Temple, Los Angeles.

RAILROAD PUBLIC RELATIONS ASSOCIATION.—J. Don Parel, Association of American Railroads, Transportation Bldg., Washington 6, D. C. Annual meeting, June 14-15, 1954, Waldorf Astoria Hotel, New York.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, 38 S. Dearborn St., Chicago 3.

RAILWAY CLUB OF PITTSBURGH.—G. E. Morrison, 2710 Koppers Bldg., Pittsburgh 19. Regular meetings third Thursday of each month, except June-September, incl., and December, Fort Pitt Hotel.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 445-447 N. LaSalle St., Chicago 10.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—L. H. Peters, New York Central, Room 1213, 139 W. Van Buren St., Chicago 5. Annual meeting, September 13-15, 1954, Hotel Sherman, Chicago.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—A. W. Brown, 60 E. 42nd St., New York 17.

RAILWAY SYSTEMS AND PROCEDURES ASSOCIATION.—J. W. Milliken, *Railway Age*, 30 Church St., New York 7. Next meeting, April 21-23, 1954, Hotel Morrison, Chicago.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7. Meets with Communications Section of A.A.R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 1221 Locust St., St. Louis 3. Annual meeting, October 20-22, 1954, Mayflower Hotel, Washington, D. C.

ROADMASTERS AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise La Chance, Room 901, 431 S. Dearborn St., Chicago 5. Annual meeting, September 13-15, 1954, Conrad Hilton Hotel, Chicago.

ST. LOUIS RAILROAD DIESEL CLUB.—F. C. Whitlock, Terminal Railroad Association of St. Louis, 376 Union Station, St. Louis 3. Regular meetings, second Tuesday of each month, Hotel York. Dinner, 6:45 p.m., meeting, 8.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7. Meets with A.A.R. Signal Section.

SOUTHEASTERN RAILWAY DIESEL CLUB.—H. W. Brewer, Seaboard Air Line, P. O. Box 6204, Jacksonville, Fla. Regular meetings, second Tuesday in February, April, June, August, October and December, 9:30 a.m., Mayflower Hotel, Jacksonville.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta.

SOUTHERN ASSOCIATOIN OF CAR SERVICE OFFICERS.—F. I. Umhau, Southern Ry., Atlanta 3.

TORONTO RAILWAY CLUB.—J. A. North, P.O. Box 8, Terminal "A," Toronto 2, Ont. Regular meetings, fourth Monday of each month, except Februrary, June, July, August and December, Royal York Hotel.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q and C Company, 59 E. Van Buren St., Chicago 5.

WESTERN ASSOCIATION OF RAILWAY TAX COMMISSIONERS.—M. L. Boydston, 516 W. Jackson Blvd., Chicago 6. Regular meetings, 12:15, p.m., first Wednesday of each month, except July and August, Traffic Club, Palmer House, Chicago.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago 1. Regular meetings, February 15; March 22; April 19; May 17, 1954.

Briefly . . .

. . . **The Pennsylvania's famous Horseshoe Curve,** on the main line 111 miles east of Pittsburgh and 242 miles west of Philadelphia, will be 100 years old February 15. The curve, considered one of the greatest railroad engineering feats of all time, attracted an estimated 75,000 sightseers in 1953.

He's working on your problem right now...

The Esso Research Engineer, above, is examining a specimen through the electron miscroscope, the amazing electronic research instrument that magnifies the specimen many thousand times.

Qualified teams of field and lab researchers, using such equipment, are constantly developing new and better products to meet rugged fuel, lubrication and operating requirements.

Making a better product for better railroading is our business... and it's going on all the time.

Like *All* Esso Railroad Products These Assure You Dependable Performance

Diesel Fuels
Esso ANDOK Lubricants—versatile greases
ARACAR—journal box oils
ARAPEN—brake cylinder lubricant
Esso XP Compound—hypoid gear lubricant
DIOL RD—Diesel lube oil
COBLAX—traction motor gear lube
VARSOL—Stoddard Solvent
Solvesso—Aromatic solvent
Esso Weed Killer
Esso Hot Box Compound
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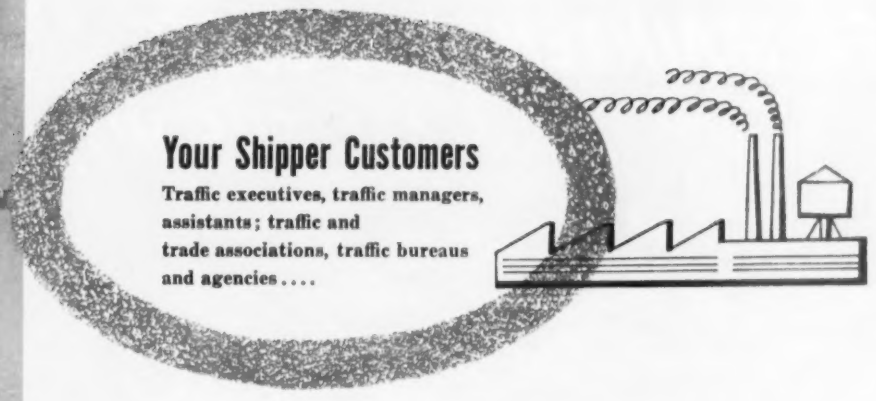
RAILWAY FREIGHT TRAFFIC—*"most quoted...most talked about, for its useful, practical discussion"*



89% of industrial traffic men

find Railway Freight Traffic of interest

A recently completed mail survey, conducted by the Kemp Research Organization of Rochester (N. Y.), shows that RAILWAY FREIGHT TRAFFIC is of interest to 89% of the industrial traffic men who receive it.

This finding is based upon replies received from 1,633 readers—a 33% return. The questionnaire was mailed to approximately 5,000 industrial traffic men who receive RAILWAY FREIGHT TRAFFIC regularly.

In addition to expressing their overwhelming interest in RAILWAY FREIGHT TRAFFIC, nearly 1,100 traffic men took the trouble to write in comments regarding the magazine in answer to the request, "Please tell us what you like or dislike about RAILWAY FREIGHT TRAFFIC." More than 87% expressed favorable opinions.

A transportation director:

"I was pleased to see the full page Missouri Pacific advertisement in the December issue of RAILWAY FREIGHT TRAFFIC calling attention to your LCL service. Please keep up the good work not only in handling less carload freight but also in telling the shipping public about it."

A general traffic manager:

"Our Louisville Chamber of Commerce Committee has been watching (the Southern Railway and the Cotton Belt) advertising program, and also urging every carrier to take advantage of every advertising medium to acquaint the public with improvements in LCL service. I would certainly recommend to all carriers that they should use RAILWAY FREIGHT TRAFFIC as one medium for this objective, and I will give to *(Railway Freight Traffic)* full support in any type of program which will improve this service."

A transportation director:

"Congratulations on the full page Lackawanna advertisement in the December issue of RAILWAY FREIGHT TRAFFIC. We were delighted to see your interest in less carload shipments; our company's existence depends on LCL shipments. If you give good carload service and tell the shipping public about it, you will get new carload business as well as additional LCL."

Railway Freight Traffic

A Simmons-Boardman Publication

(Publishers of Railway Age)

30 Church St., N. Y. 7 • 79 W. Monroe St., Chicago 3 • Terminal Tower, Cleveland 13

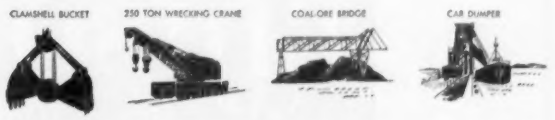
NEW ARITHMETIC
FOR COST-MINDED EXECUTIVES

1 + 1 = 1 BROWNHOIST
(SWITCH ENGINE) (LOCOMOTIVE-CRANE) DIESEL ELECTRIC LOCOMOTIVE-CRANE

Many railroads, steel mills and manufacturing plants have long been familiar with the powerful, efficient performance of Brownhoist Diesel Electric Locomotive-Cranes in handling bulk materials with magnet, hook or bucket. Brownhoist Cranes also perform equally well as switch engines because they are built with a specially designed travel generator, motor and axle reduction unit — the same equipment used in modern switching locomotives to provide high tractive power and rapid acceleration. These two dependable pieces of equipment in one husky unit mean greater versatility and economy of operation.

Brownhoist Cranes save you man hours, production time and money. The patented Monitor Type Cab and Clear-Vision Boom give the operator unlimited visibility in all directions and help him turn out a greater volume of work in less time. Sound, rugged construction plus a simplified mechanism and easy accessibility to all moving parts help keep maintenance and repair costs low.

Brownhoist Cranes are built in capacities from 25 tons to 80 tons for virtually every heavy duty materials handling operation. For complete information, consult your nearest Brownhoist representative or write us today.



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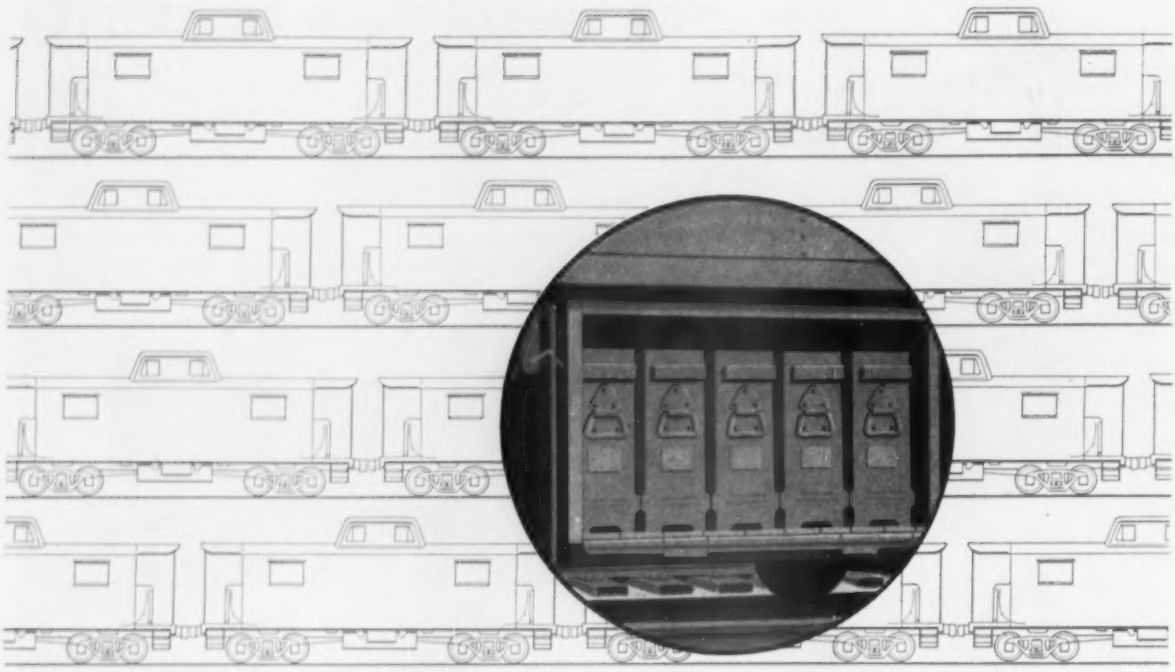
DISTRICT OFFICES: New York, Philadelphia, Cleveland, San Francisco, Chicago; Canadian Brownhoist, Ltd., Montreal, Quebec • **AGENCIES:** Detroit, Birmingham, Houston, Los Angeles

BROWNHOIST
BUILDS BETTER CRANES

166

For either freight or passenger-train cars . . .



. . . Railroads can depend on EDISON Batteries!

STEEL-BUILT FOR MAXIMUM DURABILITY—EDISON Batteries have proved their ability to withstand severe mechanical shocks incidental to all types of railway-car operations, including freight-train caboose cars, in installation after installation. EDISON's high-strength steel cells and steel plates provide exceptional mechanical durability.

HIGH ROAD CAPACITY—EDISON Batteries have no prescribed discharge limits and therefore operate self-regulating inversion equipment correspondingly longer. Recovery after discharge is as rapid as generator output permits resulting in high road capacity and virtual elimination of yard charging.

SUCCESSFULLY MEET ALL TEMPERATURE EXTREMES—EDISON battery life is not affected by the extreme cold of wintertime Canadian or Alaskan train operations—or by the tropical heat which earmarks Mexican operations. Even under such extremes, EDISONS give dependable performance and extremely long life.

LOWEST OVER-ALL COST—An entire year's record of roads operating more than 2,000 batteries showed that all batteries replaced averaged 18 to 25 years. Such long life, plus low maintenance costs, makes EDISON Batteries the most economical source of stand-by power for both passenger-train cars and cabooses. Make sure you have the latest details on EDISON batteries today—write for Bulletin SB 3208 and the name of the nearest Edison field engineer. Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, N.J.

Most Dependable Power—
Lowest Over-all Cost
. . . you get <u>both</u> with an EDISON

EDISON
Nickel · Iron · Alkaline
STORAGE BATTERIES

EDISON ALSO MAKES THE FAMOUS "V.P." VOICEWRITER AND THE TELEVOICE SYSTEM

WESTERN PACIFIC. — David H. Copenhagen, assistant general freight agent at San Francisco, who has been promoted to assistant to vice-president —traffic at that point.

(*Continued from page* 89)

passenger agent at Anniston, Ala., succeeding **Ridgely D. Miller,** who has retired after 53 years of service. **Frank E. Ardrey, Jr.,** commercial agent, has been appointed district freight agent, with headquarters as before at Birmingham.

SOUTHERN PACIFIC. — R. A. Porter has been appointed district manager of the SP Transport Company at Dallas, Tex., while **R. C. McDonald** becomes assistant superintendent of the SP Transport Company of Louisiana, at Lake Charles, La.

UNION PACIFIC. — Percy A. Aulenbacher, general agent at Seattle, has been appointed assistant traffic manager at that point. Named as general freight agent at Chicago is **James M. Adams,** general agent at Pittsburgh, who succeeds **M. R. Bryan,** who retired recently.

Jules Hansink, superintendent, dining car and hotel department, has been appointed assistant manager of that department at Omaha. Named to succeed Mr. Hansink is **T. R. Mueller,** assistant superintendent, dining cars, at Los Angeles.

WABASH. — H. H. McIntyre, general industrial agent at St. Louis, has been appointed director industrial development at that point.

OBITUARY

Richard C. Beckett, retired general attorney of the **Illinois Central,** died January 15 at Long Beach, Miss.

William J. Mitchell, assistant traffic manager of the **Minneapolis, Northfield & Southern** and general agent of the **Missouri-Illinois,** died recently at Chicago.

Leon A. Veroneau, retired freight traffic manager of the **Grand Trunk Western,** died January 21 at La-Grange, Ill.

pleasing the passengers calls for...

the light touch!

Travelers are acutely aware and deeply appreciative of the light touch, the little "extras" that make their journey a pleasure. The friendly helpfulness of the porter, the snowy linen of the dining car, the effortless opening of end doors—they're all tremendously important in building and retaining good will for the road.

Automatic end door operation is far more than a convenience, however . . . it's an important safety measure.

That is why the majority of Class I railroads throughout the United States and Canada have made NP Automatic End Door Operators standard equipment, both on new cars and on reconditioned coaches. Doors open instantly at the merest touch, remain open to allow passage, then close smoothly, silently, safely!

These leading railroads have found from experience that NP Automatic End Door Operators are a truly sound investment. They not only add greatly to passenger safety and convenience, but they also require very little maintenance, and effect substantial savings in air-conditioning costs.

Write today for our Publication No. 1063, which gives full details.

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THANKS TO BATTERY POWER!

From cover to container, the Gould Kathanode is completely engineered for diesel starting. That's why it's built with extra reserve power for fast breakaway torque and continued cranking to firing speed in any weather. Kathanodes are standard equipment on many of America's finest railroads. For the heavy current drains required in winter-weather diesel starting, there's *no* battery power like Gould Kathanode power.

Specify
GOULD KATHANODE
BATTERIES
with New Diamond "Z" Grids
for Diesel Starting

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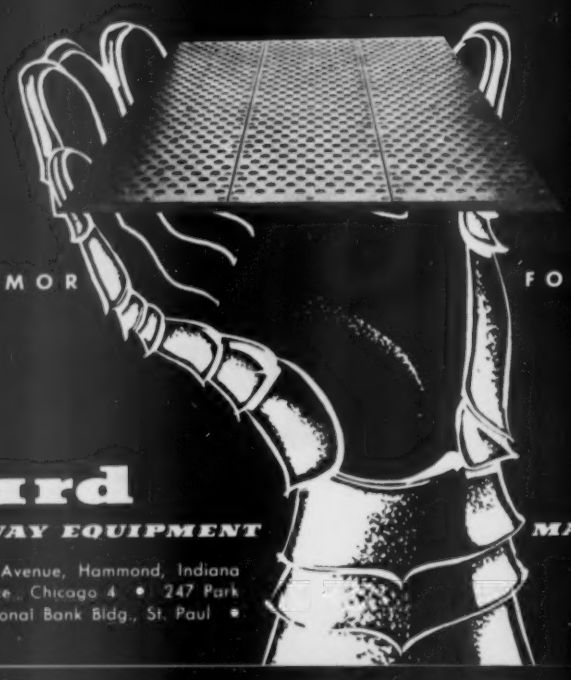
Always Use Gould-National Automobile and Truck Batteries

Standard's

Metal Floor Protector

What **IS** a profit-producing freight car? The original metal floor protector was developed in **STANDARD'S** Railroad Laboratory to prevent floor damage by heavy lift trucks. The elimination of shopping costs of numerous reflloorings represents an important savings to the railroads . . . but far **more** important is the fact that while other cars stand idle in the shops, **Standard-Equipped** cars are **on the line, producing profits.**



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GENERAL OFFICE: 4527 Columbia Avenue, Hammond, Indiana
SALES OFFICES: 310 S. Michigan Ave., Chicago 4 • 247 Park Avenue, New York 17 • First National Bank Bldg., St. Paul • 582 Market Street, San Francisco 4.

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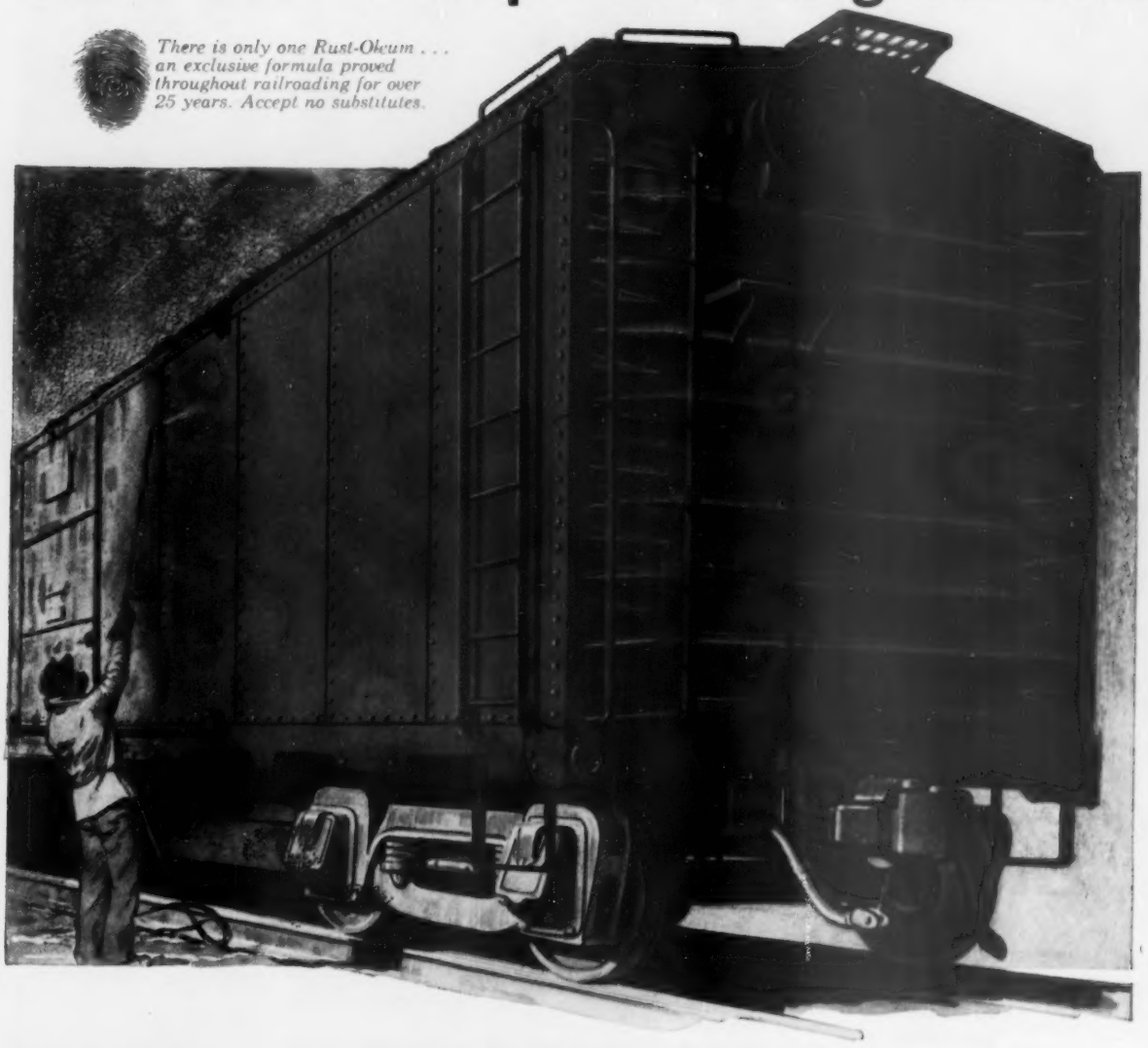
There is only one Rust-Oleum . . . an exclusive formula proved throughout railroading for over 25 years. Accept no substitutes.



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STOPS RUST!

Protect *new* metal surfaces . . . save even *badly rusted metal!*—and cut maintenance costs, too. Simply scrape and wirebrush to remove rust scale and loose particles . . . then brush Rust-Oleum 769 Damp-Proof Red Primer directly over the *sound rusted surface.* Sandblasting, chemical pre-cleaning and other costly preparations are *not* usually required. You save time, money, and metal on bridges, rolling stock, signal equipment, tanks, buildings, towers, etc. See how Rust-Oleum can save you money . . . why major railroads all over the country rely upon Rust-Oleum. Get the *complete* story from a Rust-Oleum Railroad Rust Preventive Specialist!

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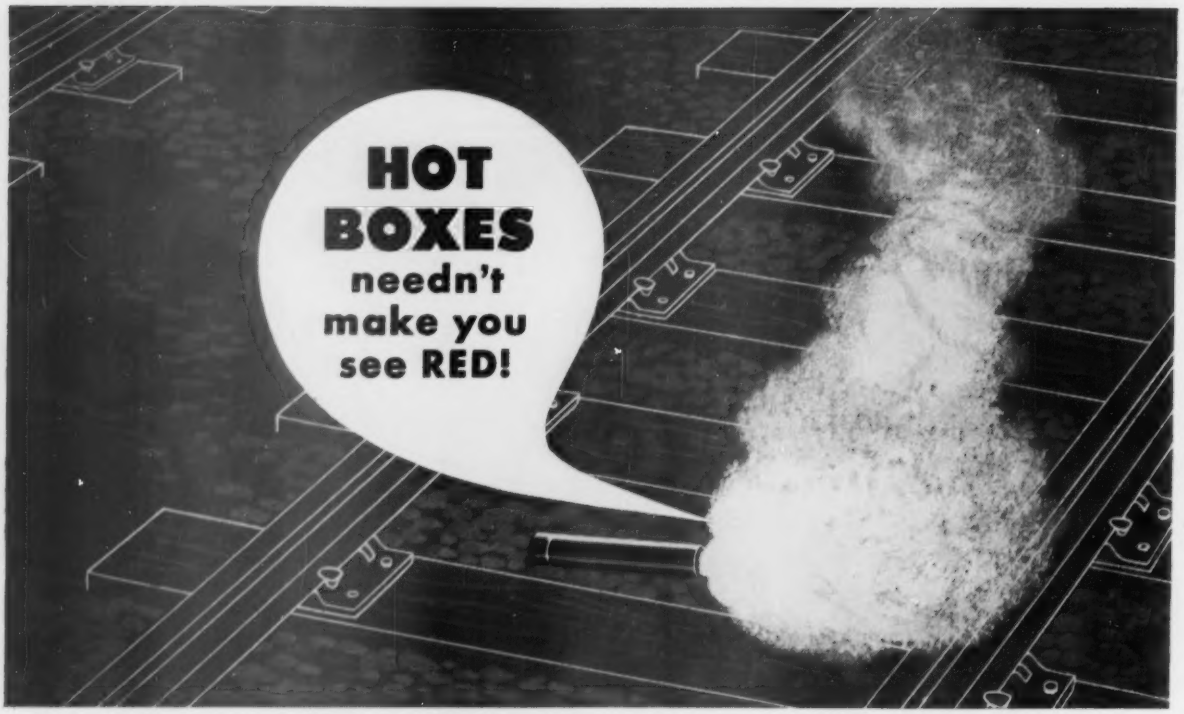
Write for your copy of the new Rust-Oleum Catalog, today! Available in many colors, aluminum, and white.



. . . Eliminate them with SKF FREIGHTER ROLLER BEARINGS

You know, of course, that roller bearing journals will eliminate hot boxes in freight service.

So – when you're equipping freight cars with roller bearings, remember *SKF has equipped more freight cars throughout the world than any other Company.* And remember one name –

SKF FREIGHTER ROLLER BEARINGS

called FREIGHTER because they improve rail freight movement in these 8 important mechanical and economic ways:

- 1st of EIGHT — **Maximum safety – eliminates the hot box problem.**
- 2nd of EIGHT — **Better riding qualities – less lading damage.**
- 3rd of EIGHT — **Minimum wear of wheels and truck parts.**
- 4th of EIGHT — **Low lubrication cost.**
- 5th of EIGHT — **Long bearing life.**
- 6th of EIGHT — **Easy installation. No adjustments at assembly.**
- 7th of EIGHT — **Adaptability to proposed AAR standards.**
- 8th of EIGHT — **Best overall economy.**

Yes, remember SKF FREIGHTER Roller Bearings—made by the manufacturer with the world's widest experience in the application of anti-friction bearings to passenger and freight cars and motive power. 7480

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ROLLER BEARING
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sure and steady

DEPENDABLE UNDER ALL OPERATING CONDITIONS!

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Where safety is concerned, there is no such thing as "dependable enough"... there is either *complete* dependability or no dependability at all!

ADLAKE Oil Switch Lamps can be counted on under every operating condition. ADLAKE "balanced draft" ventilation has proved its merits by use in the most difficult installations for many years, and in many parts of the world...and it will assure you, too, of trouble-free performance.

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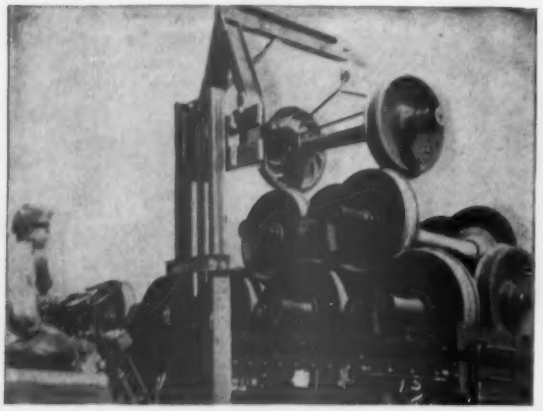
How one machine SAVES MONEY in many different ways!

Your Maintenance Shop becomes truly a gold mine of sizable savings when you put Clark fork trucks on the job! For full information phone your Clark dealer—listed in the Yellow Pages of your directory.

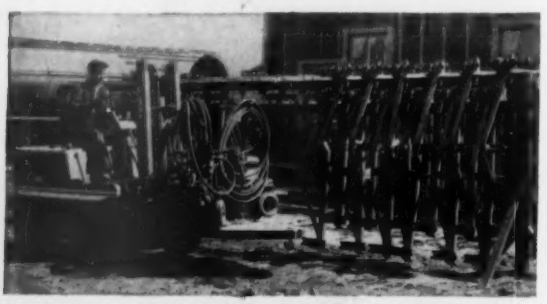


Fast, safe way to unload carwheels—what used to be a hazardous, tedious operation is quick and easy for a Clark truck with crane attachment.

Take wheels from storage direct to the job—special platform with axle-saddle carries 2200-lb. wheel-axle unit.

Spotting wheels for installation—same platform attachment doubles as a crane, sets wheels-and-axle in A-frame for completing truck repair.

Mounting a new coupler—quick, easy: the Clark takes all the hazard out of this job—as well as 80 per cent of the time!



Paging the air jacks—delivering 50-ton air jacks where they are needed, two pair at a time on that same handy platform attachment.

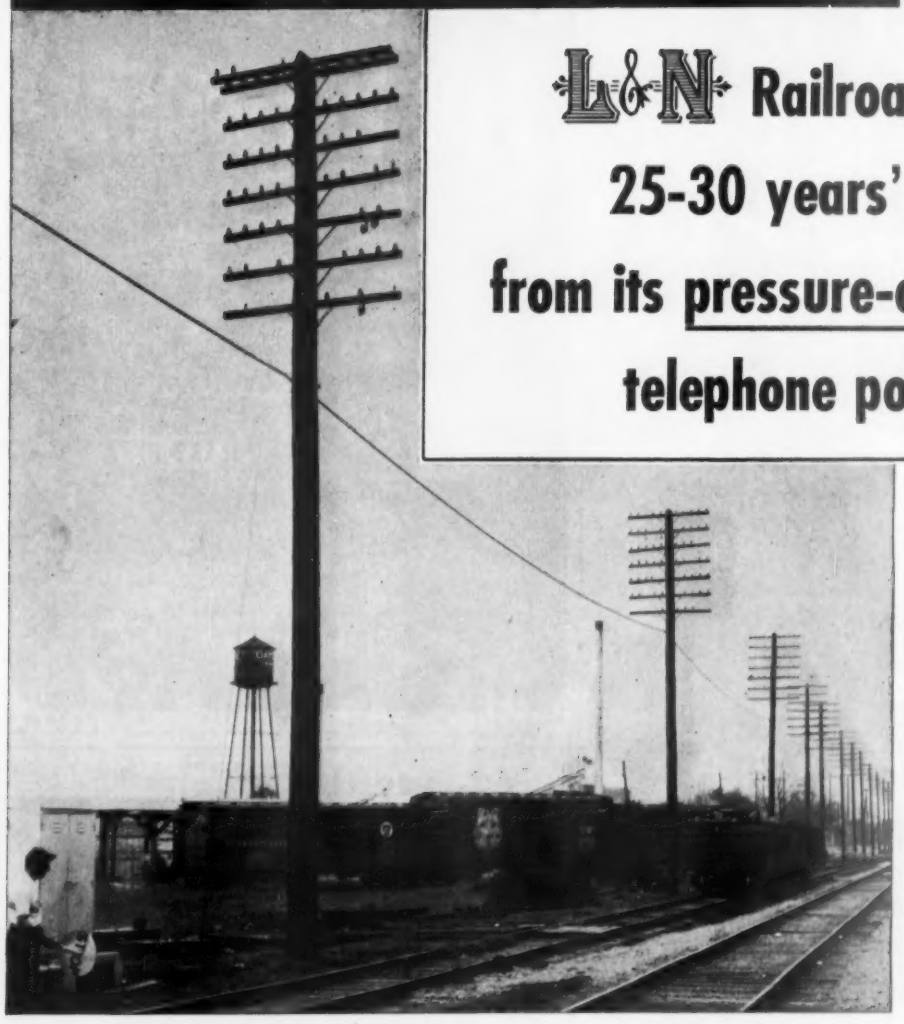
Customer-made scoop for scrap, snow or other bulk material—supporting framework, made of scrap brake beam channels, fits on the forks. (Standard production scoop attachments are available.)

CLARK EQUIPMENT

Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 24, Michigan

Here's Proof of Performance...

L&N Railroad gets 25-30 years' life from its pressure-creosoted telephone poles



EVERY ONE of the pressure-creosoted poles in this picture has been in service for more than 25 years. The poles carry the L&N's privately-owned telephone line, paralleling the main line near the Louisville Terminal.

Coordinating its operations by means of 4,332½ track miles of privately-owned telephone line, the Louisville & Nashville Railroad relies almost entirely on pressure-creosoted poles. For good reason, too, because the service records of creosoted poles are outstanding, in spite of high annual temperatures and average amount of precipitation.

J. B. Hitt, Telephone Engineer, L & N Railroad, says:

"We are getting approximately 25 to 30 years of life from creosote poles. A very small percentage of poles set in past 25 years have had to be replaced on account of being defective."

The L & N began using pressure-creosoted southern yellow pine poles back in 1924 and today has nearly 175,000 in service. Poles are pressure-creosoted in the railroad's own plant at Gautier, Mississippi.

For long-term protection of wood —poles, crossarms, crossties, posts, lumber and timber—against termites and decay due to fungi and marine borers, Creosote has proved its effectiveness time and again. It combines the toxicity and permanence needed for effective protection.

Uniform quality is highly important, and you can be assured of it when U·S·S Creosote is used. It is the product of continuous processing in America's largest tar distillation plant. For complete information, contact our nearest Coal Chemical sales office or write to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa.

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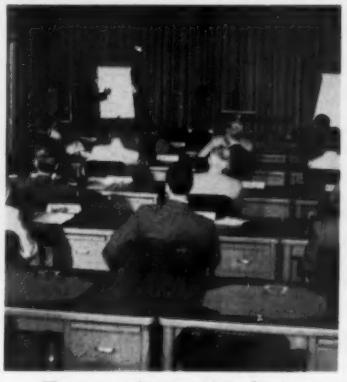
Through the center equipped for your type of work, Remington Rand will show you how an electronic-computing system can perform a scientific investigation into the structure and predictability of any operation, from office paper work to traffic and transportation . . . save you time and money on one-time jobs, deadline jobs, unusual jobs, and even routine jobs.

Write for folders **EL126** on the Univac Center, and **EL117A** on the E.R.A. Center.



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Remington Rand offers two distinct large-scale computing systems: Univac All-Purpose System, designed primarily for accounting and business record keeping; E.R.A. 1103 General-Purpose System for mathematical and scientific computations.

Write for the fully descriptive booklets **EL109 Rev. 1A** on Univac, and **EL116** on the E.R.A. 1103.

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Manager, Transportation Methods Research.
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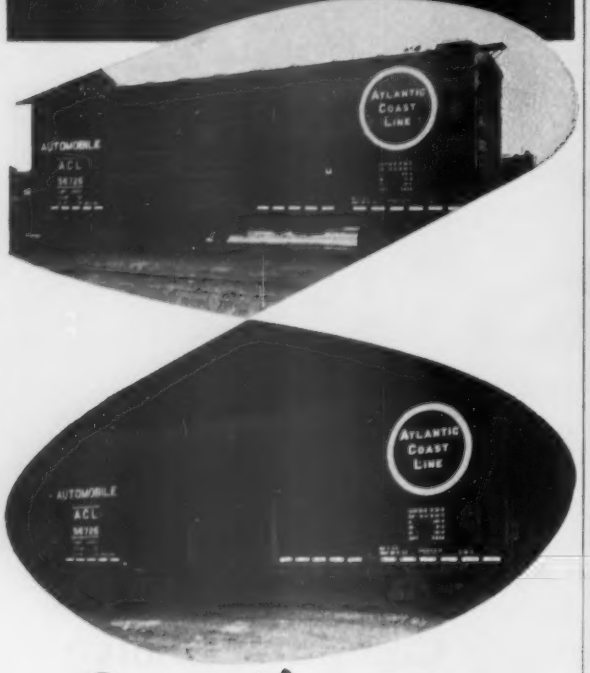

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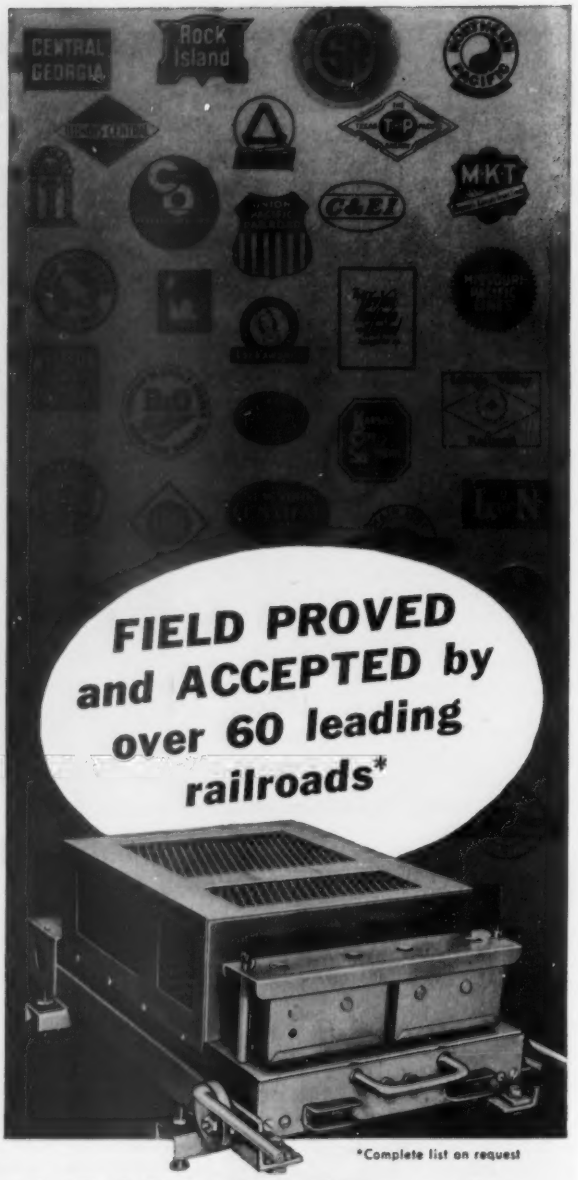

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Stainless cars weigh less because a single stainless member often meets both structural *and* decorative requirements—thus cutting weight without sacrificing strength or safety.

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Reply to Box 125, RAILWAY AGE, 79 West Monroe St., Chicago 3, Illinois.

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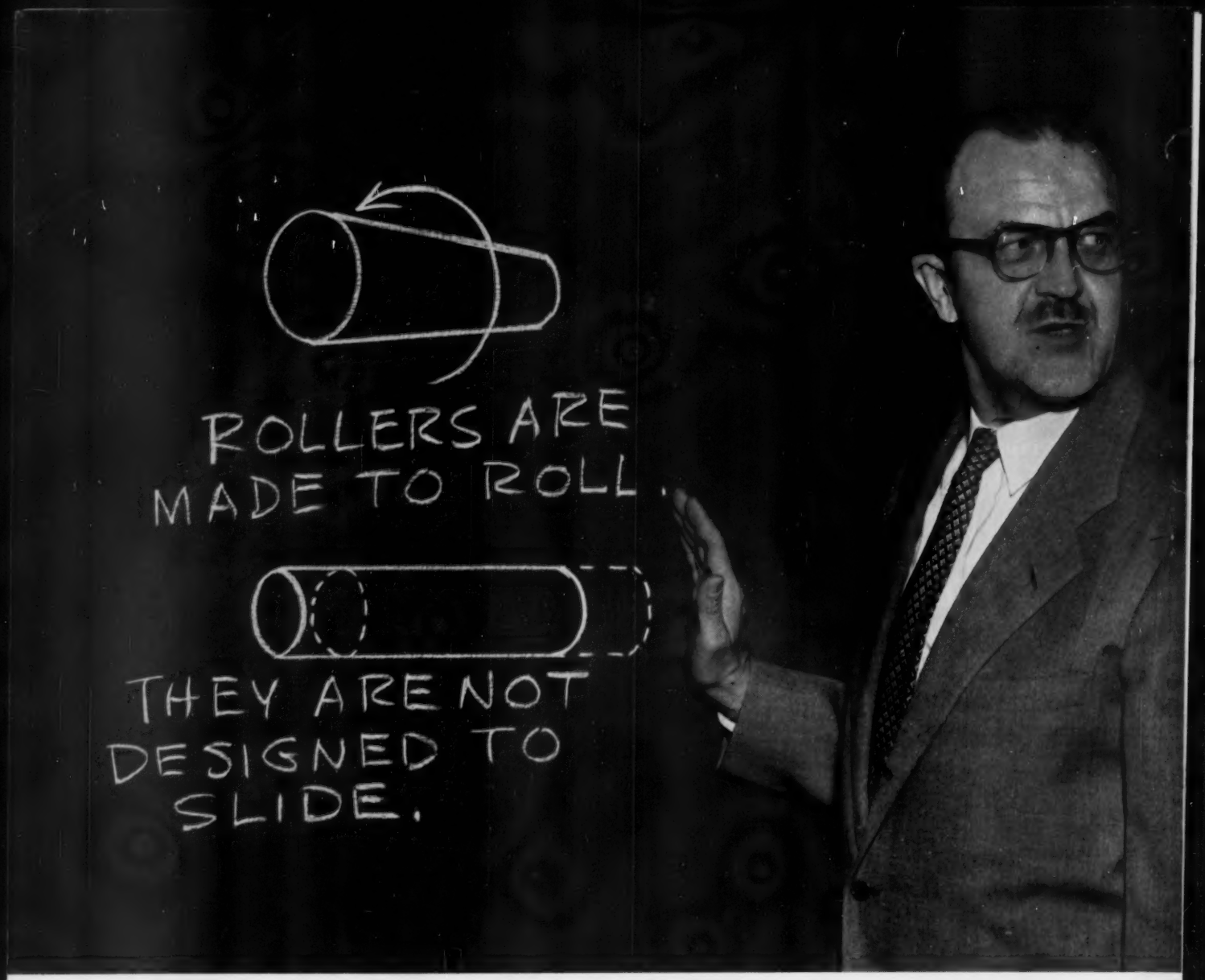

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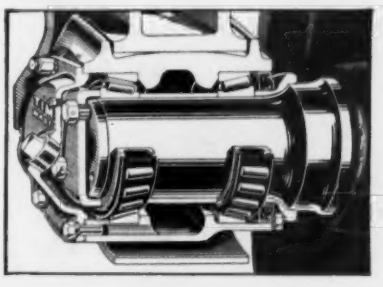

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